

# MICHIGAN FARMER

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### Agricultural.

#### GET READY FOR HARVEST.

It has been several years since we directed the attention of our readers to the Champion Reapers and Mowers, although in the meantime we have had frequent reminders of the merits and progress of the Champion; and this progress was most prominently shown in the production of the first successful Cord-Binder two years ago. The season is at hand when farmers should prepare for harvesting the growing crops, and as the selection of the necessary machinery is a matter of importance, we feel fully justified in pointing out and endorsing the claims of meritorious implements of this class. Many of our readers will absolutely need a Self-Binder, or a new Reaper or Mower; and many more who might possibly get along with their old machines, will buy new ones, feeling that it is more economical to use a new and first-class machine in securing their harvest, rather than attempt this important work with an old one, that may break down any day. Successful farmers rarely wear out their implements before replacing them with others of superior style or capacity. They wisely take advantage of the ingenuity of the men who constantly seek out wonderful inventions for lessening the labor of the farmer, making harvest-time short, pleasant, and comparatively easy, and the most successful productions of this character are, in our judgment, the Champion Reapers, Mowers and Self-Binders. The constantly growing popularity of these machines seems to defy every caprice and change of public opinion; year after year they stand the test through every variety of work; and each time when the harvest is ended and the sheaves gathered in, has the inability of the makers to supply the demand compelled them to increase their facilities of manufacture for next season's trade.

The Champion is popular;—why? Because it is about the only machine that comes out of the harvest with a good record in every locality and in every condition of grain, grass or ground. When the season is wet, the ground soft, and the grain down in the mud, other machines will cut only on one or two sides of the field; or run over the grain, cutting only an occasional head; or mire down and clog up completely; or break to pieces under the tremendous strain of heavy straw overgrown with weeds;—but the Champion Reapers will gather up every spear of grain, going continuously around the piece, cutting clean and raking the grain into bunches that can all be bound, and leaving a nice, clean, even stubble, without any breakage to

the machine or delay to the farmer. The Champion is popular, because it is the lightest-running, most durable and simplest harvesting machine made. You need not take a Champion to the blacksmith shop every year before you can use it. Take notice of how many reapers are repaired every harvest, and again take notice what kind they are. The Champion rarely needs repairing, because it is strong and durable, and carefully made of wrought-iron, instead of cast-iron, as others are. About all the cast-iron employed on the Champion is in the gear-wheels; and all other parts are made of wrought-iron, malleable-iron, and steel, making the machine compact.

### HARVEST TIME.

ONCE more the liberal year laughs out,  
O'er richer stores than gems or gold;  
Once more with harvest song and shout,  
Is Nature's bloodless triumph told.

OUR common mother rests and sings,  
Like Ruth among her garnered sheaves;  
Her lap is full of goodly things,  
Her brow is bright with autumn leaves.

SO let these altars wreathed with flowers,  
And piled with fruits, awake again  
Thanksgiving for the golden hours,  
The early and the latter rain.

—Whittier.

### OUR ILLUSTRATIONS.

On this page we present some fine "Harvest Views," showing three different styles of the Champion Machines at work in the fields. The Champions are well known, and we have no space for a full description of each.

The manufacturers will doubtless be glad to send to any farmer descriptive catalogues on application. A few words must suffice here. The

CHAMPION NO. 4 COMBINED MACHINE, which our large circular cut shows as a Self-Raker, is first built as a Mower, and so arranged that a self-rake attachment or a dropper attachment can be added at any time. These

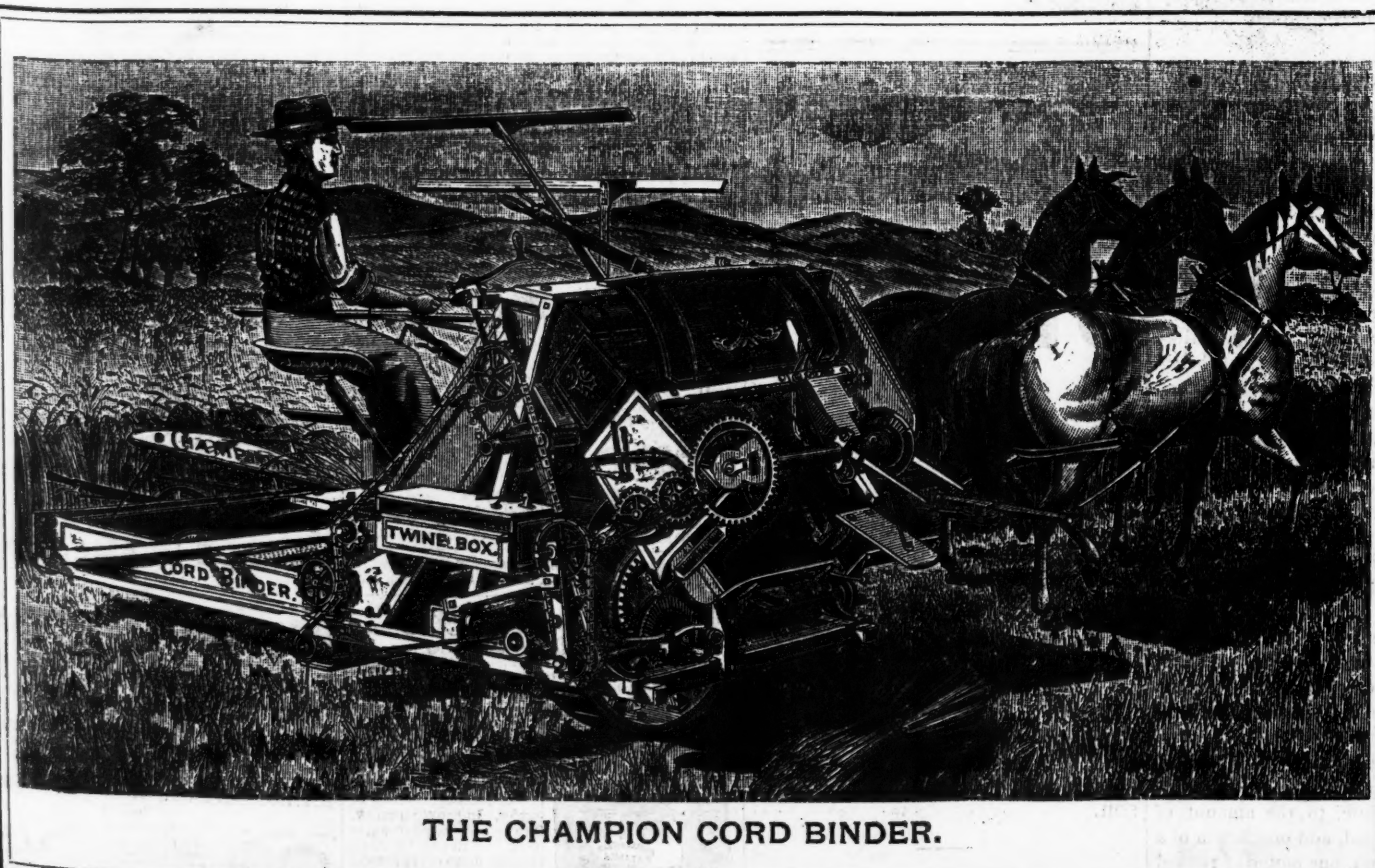
attachments are fastened to the machine by a few bolts, and can be attached or taken off by the farmer in a few minutes. The machine is made in two sizes, with 4½ feet and 5 feet bar. It is a complete reaper, a complete dropper, and an excellent mower.

THE NEW CHAMPION CORD-BINDER has all the facilities for cutting and handling grain that can be found in a good reaper, and the recent improvements in the binding mechanism overcome all the difficulties that have formerly been experienced. The manufacturers feel entirely sure and confident in their new Binder, because they employ the best system of binding that has been produced, but with all objectionable features eradicated, with all weak points strengthened and improved, and with many new and valuable appliances. But in our opinion the strongest recommendation of the Champion Binder is, that it has been devised and built by the same men who perfected the celebrated Champion Reapers and Mowers,—men who never yet made a blunder in mechanics.

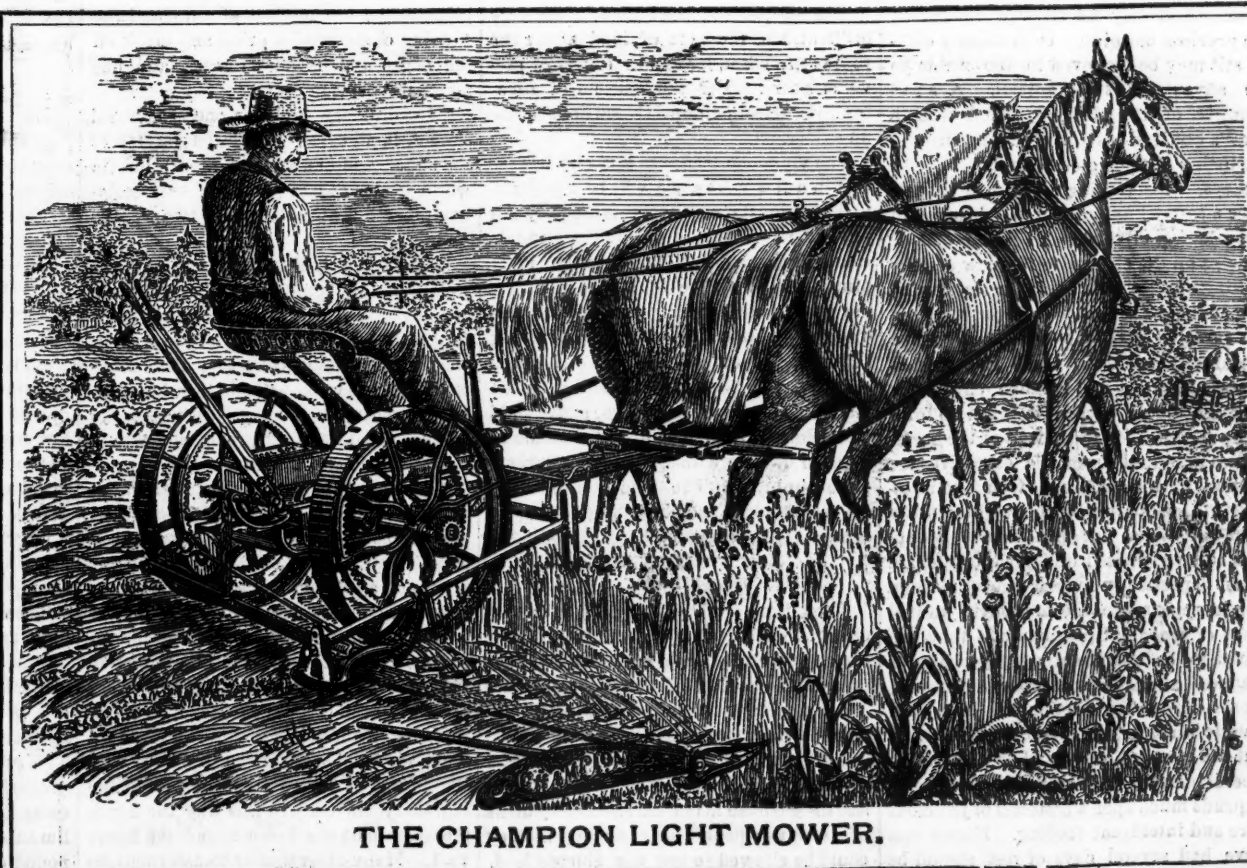
THE CHAMPION LIGHT MOWER is a counterpart of the Champion "Combined" Mower, but smaller, cutting four feet wide; and being stripped of everything that is necessary in a reaper, but not necessary in a mower, it is much lighter. This little moving machine has a powerful cut, never choking in the toughest and thickest grass, starting to cut promptly without previous backing, and cutting close and clean, whether the crop is standing or lodged. We believe the Light Champion has been for years the favorite mower of one third of all American farmers.

THE CHAMPION SINGLE REAPERS are light draft harvesters of great capacity, and are popular wherever large crops of small grain, flax, clover seed, sowed corn, etc. etc., are raised. There are two kinds of these reapers, cutting five feet and six feet wide. They combine great strength with light weight, and are peculiarly well adapted for hilly or soft ground. They have wrought-iron main frames, forged guards, malleable shoes and boxes, and all the other features that have made the Champion machines our standard harvesters.

THE NEW CHAMPION MOWER is a front-cut machine with a 4½ foot bar. It runs almost without noise, because the gearing consists of only two small bevel wheels, acting as a differential gear. This very curious and ingenious mechanism forcibly attracts attention by the steady, even, and powerful movement it gives to the knife. The device for raising the cutter-bar to an upright position without stopping the knife, and other convenient features of the machine, will be fully appreciated by practical farmers. The New Champion has been extensively used all around us for the past five years, and we have never heard anything but unqualified praise of the machine.



THE CHAMPION CORD BINDER.



THE CHAMPION LIGHT MOWER.



## Horse Matters.

## Feeding Horses.

In determining the proper feeding of a horse, the character and amount of work to be performed by the animal are important factors in the problem. It is quite probable that horses are injured as much by injudicious and excessive feeding as by any lack of provender. Many a valuable horse, which, perhaps, has been accustomed to an hour or two's drive each day at most, often standing in the stable for days in succession, and fed as though he were doing a full day's work each day, is injured by an unthinking driver, who handles the animal as though there were no limit to his speed or endurance. Frequently the reason assigned for such a hard drive is that the horse has been standing idle for a week and needs the exercise, which is the very reason why moderate driving at the commencement should be the rule. An over-fed, under-worked horse is no match either in speed or endurance for the animal that is regularly driven every day, and fed with moderation and judgment. The same is true of the draught-horse that is not in regular use, he soon gets out of condition for the hard, laborious work so easily performed by the horse that is in harness every day.

The matter of feeding horses demands the most careful consideration. We are told that the horses of the east are fed mainly upon barley; and it is a popular idea with English officers, who have lived in Persia and Syria, that the change of food from barley to oats often, when imported, produced blindness in Arab horses. If true that any large percentage of such horses do lose their eyesight, we should attribute it rather to the change of climate than to the change of food. For muscular exertion barley is not the best food for horses, since it does not contain the flesh, bone and muscle producing elements which are so prominent in oats. Englishmen feed their hunting and racing horses, and also those driven upon the road, with a mixed ration of oats and beans, the best food for sustaining the animal under severe tests of speed and endurance. Such feed, however, is apt to heat the blood and produce costiveness, demanding the closest attention of the groom, and necessitating occasional feedings of boiled linseed or bran mash, both of which also combine muscle-producing properties to a large degree. The aim of the feeder is to keep his horses in such condition that they may be ready at all times to exhibit their highest speed or their greatest endurance. For such a desirable condition regular exercise is as necessary as regular feed, and a horse of high spirit should not be allowed to stand in the stable during a whole day without taking a trot or a canter of a few miles that he should pass the day without his customary rations.

Food adapted to the production of bone and muscle is as important to the farm horse and the city-draw-horse as to the hunter, the roadster or the race-horse. The former requires as good care as the latter where the best results are desired. Common usage places the feeding value of Indian meal above that of oats for horses, yet corn gives less muscle than oats and little more than barley, while the heat and fat producing elements in corn are greater than in barley or even in oats. The practice of providing horses with cut feed, so universal a few years ago, is less in vogue at present, longhay and whole grain being considered the more natural food for horses. Whether the one or the other should be fed depends much upon the character of the work in which the animal is to be employed. Where the horse is not taken out of the stable until the middle of the forenoon, and thus given plenty of time for the mastication of his food, the long hay and whole grain would undoubtedly form the most desirable ration, but where the horse is fed at six o'clock in the morning and must go upon the road at seven, cut feed is certainly best. At night the animal can be fed with oats, which are improved by crushing. At night these hard-worked horses may be fed with oats and hay, unless when very late and the animals very tired, then a supply of cut feed will permit an early completion of their supper and an earlier lying down to rest.

Long hay generally contains more or less dust, and when fed to horses frequently causes them to cough, sometimes seriously affecting their breathing. To remedy this difficulty the hay should be sprinkled with a little water an hour or so before the time of feeding, or that which is intended for morning's feed may be sprinkled the night before, while the evening feed may be slightly wet down the previous morning. Occasionally a little salt may be dissolved in the water to the advantage of the animal. A small quantity of linseed meal mixed with a horse's cut feed has a good effect, generally producing a fine, glossy coat. English jockeys, when putting up a horse for sale after a severe hunting season, add a pound and a half of oil cake to his ordinary food. It helps on the change to the new coat by making him fat. A horse in low condition changes his coat very slowly. Bran is a valuable food for occasional use when mixed with cut feed. Made into mashes it has a cooling and laxative effect, but used dry, or in excess, it is apt to form stony secretions in the bowels of the horse. Stones produced from the excessive use of bran have been taken from the intestines of horses after death weighing many pounds. When cut open these stones appear to be composed of a hard, crystalline mass, deposited in regular rings, resembling in appearance the concentric annual rings of wood. Upon analysis they are found to be composed of phosphate of magnesia and ammonia, most valuable elements in the production of bone and muscle when fed under proper conditions, but the cause of death when fed in too liberal quantities. The value of the horse depends much upon a bestowal of judicious care and intelligent feeding. Horses that have had several days of rest should be put to work gradually at first and regularly afterwards. Farm horses are great sufferers from irregularity in work, some-

times standing idle in the barn for a week, then made to perform two days' work in one, with the fallacious idea that a week's enforced rest may be made the basis of days of overwork. An intelligent humanly may work wonders in improving the condition and increasing the capacity and usefulness of the noblest animal in the service of man. —*American Cultivator.*

The number of horses at present in the country is about 12,000,000, of which number 1,100,000 are owned in Illinois, which has the most of any state, and 1,632,000 in Texas. Within the past few years quite an export trade in American horses has sprung up, the animals going chiefly to England and France.

## The Farm.

## OUR FRENCH LETTER.

New Machinery—Fertilizers—Brewery Mash for Cows—New Winning Machine—Sainfoin, Beet and Phylloxera.

PARIS, May 6th, 1882.

Efforts have been made to produce machinery, capable of extracting sugar from beet on the farm even, and by the ordinary servants. A firm in the neighborhood of Paris claims to have supplied the want; practical lessons have been given and with fair success, at their works.

## FERTILIZERS.

M. Marguerite draws attention to the great waste of blood, when it can render such invaluable services as a manure. A preparation of sulphate of iron, one quart to 20 of blood, will convert the latter into a cake, which when dried either by pressure or heat, will readily pulverize, and contains from 10 to 12 per cent of nitrogen. The employment of superphosphates as a complementary manure up to the present, found but little favor among tillage farmers of calcareous soils, in the southwest of France. M. de Gasparin, the eminent chemist, has investigated the subject, and found that when the phosphate was scattered on meadow land, so as to be followed by a slight rain or heavy dew, the results were eminently satisfactory. The phosphoric acid in the superphosphate in question, was in the state of phosphate of iron; but the acid is as capable of entering into vegetation in this state as if combined with lime, iron playing an important part in the skeleton of cultivated plants. Conclusion, that in calcareous soil, superphosphates with base of iron answer well—a fact of great importance. Professor Marcher, of Saxony, recommends manures containing 168 lbs. of soluble phosphoric acid, and 66 lbs. of nitrogen per 2½ acres for potatoes; for sugar beet, the same dose of acid and double the quantity of azote. Dr. Wildt, of Posen, recommends nearly the same formula.

## BREWERY MASH FOR COWS.

Brewery mash or refuse constitutes a valuable source of feeding for milch cows, especially when fresh; the difficulty is to keep it from becoming acid, as when in this state it affects the milk. Several processes are employed to preserve it, as drying and compressing into cakes; conservation, when well salted, in trenches, etc. At Berlin, a firm has been established which mixes the refuse with bran, flour, peas, beans, etc., making the mass into a paste and baking as bread; the loaves recall in taste and odor fresh rye bread. The preparation readily dissolves in water or can be mixed with chopped food. All animals relish it, and the milk from cows fed on it is excellent.

## NEW WINNOWNING MACHINE.

M. Roher, a Swiss gentleman, has improved a winnowing machine for separating clover and lucern seed from doder, and which is highly spoken of by independent persons who have witnessed its working. The seed passes through a series of movable drawer screens, and is brought up into a drum after passing through a regulated current of air, which carries off the lighter seeds of the parasite. The machine can be adapted to purify other seeds. A machine has been produced in Hamburg for making "wood wool" suitable for littering purposes, and claiming superior advantages over saw dust. It converts chips of every kind of wood used in work shops into a sort of fibre or flock.

## SAINFOIN, BEET AND PHYLLOXERA.

In the southwest of France the sainfoin is attacked with a maldy caused by a fungus; applications of sulphur after the first cutting are recommended. M. Chevreul suggests a study of the changes effected in the composition of the soil.

The prospects of the beet crop are very brilliant, and the area of land under the root is this season largely in excess of previous years. For the success of sugar beet, the selection of good seed has become an axiom.

## The Vines commence to bud and leaf, so that in a few weeks, we will be a position to determine the new progress made by the phylloxera. Vineyard proprietors struggle energetically against the maldy. It is proposed to apply the 300,000 fr. voted by the government some years ago for the discovery of a perfect cure, to supplying sulphuretted carbon, etc., at a reduced price. It has been remarked that when American stocks are employed, care should be taken that their origin will coincide in point of climate with that wherein they are to be employed. The wheat crop is excellent, the only danger to be apprehended is a too rapid vegetation.

## Glucose or Sugar Meal.

There is no doubt that a large quantity of glucose meal has been scattered through the country this spring, and sold to dairymen on the ground of increasing the flow of milk. Regarded simply in this light, it seems certain that it is a profitable article to feed to milch cows. Patrons of these factories claim that they would prefer to sell their cheese at one-half to three-fourths of a cent per pound less money, if they could be allowed to use the glucose feed. Sugar meal sells here at about \$8.60 per ton, so that when cows are fed upon it entirely it makes a very cheap food. For a

time also the animals seem to thrive upon it.

But there is another light in which this subject must be viewed, entirely apart from the cheapness of the meal as food, or from its effect upon the cows. The milk produced by these animals has got to be used, either as food in itself or for the production of butter or cheese. And on general principles most dairymen, if unbiased by the desire for gain, would at once pronounce that an article which becomes sour in a few days after leaving the factory as to taint the air and be smeltable 20 to 30 rods away, must be an improper food for milch cows, and must affect their milk unfavorably. It is universally acknowledged that whey should not be fed to cows, on account of the effect it has upon milk, and the same principle is even more imperative in the case of glucose meal. In the use of milk for the household, although no odor can be detected when cows have been fed upon the meal, the moment the milk is poured into a cup of coffee it assumes a stringy appearance and becomes an object of suspicion. We hear of one milkman who commenced using the meal without the knowledge of any of his customers. They at once began to complain, and threatened to leave him if there was not an improvement in the milk. He stopped the use of the meal and there were no more complaints about his milk. But its worse effects are seen in the cheese made from this milk. In the first place, it takes about one-third more annatto to color the cheese, which at once shows the presence of an undue amount of acid. In the second place, the milk has to be heated much higher than usual, and even then it is impossible to bring the curd to a proper consistency. They remain throughout soft and savery, and will not cure down firm and solid. A Chicago dealer lately wrote to one of his consigners in regard to his cheese as follows: "They have the appearance of being finely made, but on inserting the tryer in the cheese the plug comes out porous and gritty; and on holding them any length of time they seem to rot and get bad. There is something in the milk, in my judgment, that causes these conditions. The cows are fed on something that is sweet, or foreign to their customary feed. The cheese seems precisely like those of a certain factory which I handled last year, which rotted down in 30 days, causing a loss to me after I had sold them. Some of my customers refused to pay at all. After investigation, I found the cows had been fed on glucose (meal), which invariably produces this kind of cheese." This is only a single example of experience which has been repeated in various parts of the country. And it shows that the use of this article is one which is liable to cause serious loss to everybody connected with it. A condensed milk factory, located in a village only a few miles east of here, lost several thousands of dollars last season because some of its patrons used glucose meal as food for their cows. The condensed milk prepared from it was sent back to the factory by those who had purchased it, as wholly unfit for any kind of use.

With facts like these, concerning which there can be no sort of question, before our dairymen, they must see that it would be the height of folly to commence or, if already commenced, to persist in the use of sugar meal for the mere sake of a little increase in the yield of milk. In the end it will inevitably result in serious loss either to themselves or to the factory to which they send their milk. And if it is discovered that certain patrons are feeding the meal, the factoryman himself should take the matter in hand, and insist that the practice be done away with. It is an injustice done not only to himself but to the other patrons of his factory. Cheese this year are sold upon their merits, and not upon the reputation of the establishment where they are made. Under this system, stock which is made out of glucose milk will very soon tell its own secret and ruin the name of the factory which sends it forth. —*Union Herald.*

Preparation of Cheese for Market.

The Cheese Committee of the Butter Cheese and Egg Exchange of New York, has issued the following directions to cheese-makers:

"Much loss results to owners from ill-fitting boxes. All cheese boxes should have double rims; the box should fit the size of the cheese closely, and if the band of the box should be found to be too high, it should be evenly cut down so that the cover rests equally on the top of the cheese and the edge of the band. Cheese should never be transported in a box the band of which is lower than the top of the cheese. When the cover rests on the top of the cheese alone and the others are piled above, the motion of cars and the heaving of steamships grind and break off the edges and make damaged and unmerchantable goods.

"In ordinary weather one scaleboard should, in all cases, be placed on top of the cheese and one at the bottom; but in warm weather there should be two scaleboards used on the top and two at the bottom.

"To the weighing and marking the weight on the boxes too much attention can not be given. It is of course taken for granted that the naked cheese will be weighed with more liberality than marked on the band of the box, just beside the lap on the lower side, and not with a pencil, but in stencil figures.

"Boxes should never be marked on the covers, because, in New York, weights are generally taken of the boxes while standing in piles from six to ten boxes high, and any other method involves more labor. In all cases when marked on the covers, re-marking becomes necessary on the band, which process consumes time and runs the risk of mistakes. Even when marked on the band, some figures in pencil are made so large at the factory that when the band is cut down to a level with the surface of the cheese a portion of the figure is removed. In this way the figure 9 becomes either a 7 or a 2, and the figure 7 a 1. Many other similar transformations take place, causing differences between invoiced weights and those actually taken from the boxes after the cooping done."

Durable Whitewash.

Every farmer has more or less outbuildings and fences that are built of rough boards, that he does not feel that he can afford to paint with lead and oil, that could be covered very cheap with white wash, and thus greatly improved in appearance, and what to most of farmers is important, made to last twice as long as if left exposed to the chances of weather.

The great drawback in common whitewash is the want of durability, it being necessary to renew it every year; but an improved preparation may be made, at a very low cost, that when properly put on will last some years and look very well. It is made as follows: for five gallons, slack six quarts of good lime in hot water; covering it up while in the process of slacking, to keep in the steam; when slacked strain through a coarse cloth; add one quart of salt, prepared by boiling in water until dissolved, and the impurities have been skimmed off; also add one pound of alum, one half pound of copperas, three-fourths of a pound of polish, four quarts of very fine sand, and coloring to suit the fancy. This preparation should be put on hot; if properly done it makes a durable paint. To make a brilliant white, to the amount of lime above mentioned, add one-fourth of a pound of burnt alum, one pound of refined sugar, three points of rice-flour, made into a thin paste, and one pound of dissolved glue. This, like the other, should be ap-

## More Merino Wool Wanted.

The U. S. Economist in a recent issue, makes the following suggestions to the wool growers of the United States:

"It would thus appear that, health in every department of wool of merino growth is maintained abroad, while prices there make it a matter of absolute certainty that no wool can come hither save on manufacturing account, so that no real competition can take place as between foreign sorts and domestic here, as domestic is now so far below the cost of foreign. California spring free can be bought under 80c the scored pound, and fleece costs under 90c the scored pound. So as the market now remains no foreign can compete profitably with domestic. We can now see how near this country is to supply and demand. Should our growers but do a little better we should want no foreign clothing wool, and we should then stand independently of the rest of the world as regards that sort of wool. We should like very much to see that state of affairs, and we firmly expect to see it in a few years.

"We think too much stress is now put on raising cereals and too little on wool. The coming season promises a large crop to European countries, as their winter has been a promising one. Should they have an extra large crop this country would find a poor outlet to its surplus of grain, while for wool we have a home market, in which always supply is not up to the demand, in that each year we have to import a greater or less amount of foreign descriptions. We think Americans everywhere would do well to pay more attention to wool-growing. There are vast opportunities for them in those extensive regions west of the Mississippi, where new space exists for unlimited extension of sheep husbandry, on land which costs nothing for grazing purposes, as it now lays wild and unused.

American Agriculture vs. English.

Mr. Fowler, M. P. for Cambridge, recently gave to a Chicago Tribune reporter his impressions of the agricultural resources of the West, where he has spent some time in making observations. "What has interested me most," said he, "is the matter of transportation to England, in connection with the cost of production here, and the question is whether we can continue much longer to compete with America in the raising of wheat, or even to raise it at all and make it pay. The natural protection to English production, by reason of the cost of carriage, must be—may, is—rapidly diminishing, and I rather expect, if we were to have a good harvest in Europe and America at the same time, you would have prices such as we have never expected." "The American farmer is producing and transporting wheat and corn so cheaply, then, that his English brother cannot compete with him?" "It is a good deal as a gentleman expressed it to me the other day, when he said: 'A man out here in Iowa is competing with the English farmer just as if he lived in Yorkshire.' That may be a strange way of putting it, but you must observe the great advantages which the American farmer has over the farmer on the other side. Iowa land, for instance, costs \$10 an acre, while in England it costs \$50, \$70 or \$80 an acre, so that the Englishman is terribly handicapped at the start, for he has to pay interest on \$50 to \$70, while the Iowa man pays interest only on \$2. Then, in addition to all that, the Iowa man has a better soil and a better climate. In short, with these advantages in favor of the American farmer, with the cost of transportation minimized as it is, so that our natural protection from that cause is rapidly diminishing, I have great doubts whether the cultivation of wheat will pay in England at all. I speak not so much of the present as of the future, for our crop this year has been a good one, while yours seems to have been just the other way. Your deficiency this year, as I have seen it stated, is 80,000,000 bushels—nearly as large as England's entire production in an ordinary season. But here is your vast expanse of territory developing every year. Then, again, you virtually raise wheat in this country by machinery. The extent of your wheat raising territory is simply astounding, but your population, while large in the aggregate, is spread over these vast expanses, and your real market is elsewhere—across the water, over in England, where we find a contrary state of affairs—a comparatively small wheat raising area, with millions of people to feed. And I don't begrudge you your good fortune in the least. Your prosperity is ours, for, unless our people be cheaply fed, they cannot afford to work for reasonable wages, and unless we can manufacture at reasonable cost, we can no longer hope to supply the world with our manufactured products."

Canada has become more emphatically a dairy country than the United States. With a population of 5,000,000 they manufacture annually 60,000,000 pounds of cheese, equal to twelve pounds per capita, while we, with 50,000,000 people make 300,000,000, or six pounds per capita. With a population not exceeding one-tenth of ours, their exports of butter are about one-half as great as ours.

Many of the southern planters say they would not part with the advantage the overflow will be to their lands for a nice little sum of money. The sediment deposited by the flood will do the soil more good than any fertilizer that could be applied. One planter says the cotton lands will now be worth from \$4 to \$6 more per acre than formerly.

Agricultural Items.

The Massachusetts Ploughman says a cow that has been overfed with meal, rarely ever recovers, and unless she is particularly valuable, might better be turned into beef.

A member of the Elmira Farmers' Club says ashes are far more profitable to use on potatoes than on other farm crops, because of the demand for potash which potatoes make upon the soil. Ashes incorporated into the soil will benefit to some extent all crops grown upon it, some more than others.

The Massachusetts Ploughman says: "Two acres of land will furnish as much fodder as can be profitably consumed by three cows. The farmer who keeps stock equal to twenty-four cows may plant sixteen acres of corn. From this he should get at least eight hundred bushels of corn. This will give a daily ration to each cow of nearly three quarts of meal during the entire year. It would also give, for six months, a daily ration of about ten pounds of fodder. By giving, in addition to this, a small feed of good hay, milch cows can be kept in excellent condition at a very moderate cost."

THE BEST OF THE SEASON.

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THE BEST OF THE SEASON.

## NEW ADVERTISEMENTS.

YOU SHOULD WEIGH WHAT YOU SELL AND BUY THERE IS MONEY IN THE PRACTICE

Every farmer should have the means of weighing his produce before he sells it, and also what he buys. A matter of economy there is nothing that will pay him better. The high price of scales prevents many from providing themselves with them, and they are thus at the mercy of every dishonest party they do business with. One of the very best makes of scales now on the market are those manufactured by the Chicago Scale Co., and for the benefit of those who read the FARMER we have arranged with that company to supply orders sent through us at a great reduction. The price are so low that the saving of loss on a load of wheat, pork, poultry or butter, will pay the entire cost. Just look at the prices below and judge for yourselves.

No. 1—Housekeepers' Scale.

weights from 14 oz to 25 pounds. Price \$4.00, and MICHIGAN FARMER one year. With tin scoop 50c extra. Brass scoop 75c extra. No. 2—Family Scale.

weights from 14 oz to 25 pounds. Price \$4.00, and MICHIGAN FARMER one year. With tin scoop 50c extra. Brass scoop 75c extra. No. 3—Barn Scale.

weights from 14 oz to 25 pounds. Price \$4.00, and MICHIGAN FARMER one year. With tin scoop 50c extra. Brass scoop 75c extra. No. 4—Farm Scale.

weights from 14 oz to 25 pounds. Price \$4.00, and MICHIGAN FARMER one year. With tin scoop 50c extra. Brass scoop 75c extra. No. 5—Grain and Stock Scale.

weights from 14 oz to 25 pounds. Price \$4.00, and MICHIGAN FARMER one year. With tin scoop 50c extra. Brass scoop 75c extra. No. 6—Grain and Stock Scale.

weights from 14 oz to 25 pounds. Price \$4.00, and MICHIGAN FARMER one year. With tin scoop 50c extra. Brass scoop 75c extra. No. 7—Grain and Stock Scale.

weights from 14 oz to 25 pounds. Price \$4.00, and MICHIGAN FARMER one year. With tin scoop 50c extra. Brass scoop 75c extra. No. 8—Grain and Stock Scale.

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## NEW ADVERTISEMENTS.

YOU SHOULD WEIGH WHAT YOU SELL AND BUY THERE IS MONEY IN THE PRACTICE

Every farmer should have the means of weighing his produce before he sells it, and also what he buys. A matter of economy there is nothing that will pay him better. The high price of scales prevents many from providing themselves with them, and they are thus at the mercy of every dishonest party they do business with. One of the very best makes of scales now on the market are those manufactured by the Chicago Scale Co., and for the benefit of those who read the FARMER we have arranged with that company to supply orders sent through us at a great reduction. The price are so low that the saving of loss on a load of wheat, pork, poultry or butter, will pay the entire cost. Just look at the prices below and judge for yourselves.

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## Horticultural.

## New and Delicious Grapes.

R. H. Haines, a prominent fruit grower of Morristown, N. J., thus describes some of the newer and more desirable varieties of grapes:

"An unusually large number of desirable new grapes have recently made their appearance. We previously had so many excellent varieties that it appeared as if they could not be surpassed, and that even if new sorts should be produced they could not differ very much from those on hand. However, some of these new grapes show us plainly that there are vacancies which we perhaps had not imagined to exist before, and that they will fill up space that will add greatly to the enjoyment of the lovers of this fruit. These new comers are of different colors, sizes, shapes and flavors, and differ from each other in their seasons of ripening. Some of the white varieties promise to excel in productiveness, size and flavor of fruit; some of the older hardy white grapes; some of the red sorts to excel in beauty and size of bunch and berry, and in flavor and keeping qualities; and the black varieties in earliness of ripening, richness of flavor or showiness of bunches. Among some of the newest that are attracting at present are the following:

"*Lady Charlotte*.—This will be desirable principally for its lateness, as most of the new white grapes ripen earlier. Its hand some large bunches and fine quality will also be in its favor. The berries are of medium size, white, turning into a yellow or golden color when ripe, and with a reddish tinge, if grown in the sun. They ripen about with the Iona. The vines are vigorous growers and productive.

"*Jefferson*.—This is one of the most promising of the new red grapes. It is especially noticeable for its large and showy bunches and berries, and for its fine keeping qualities. There is a certain crispness and delicacy of flavor in the fruit which many persons will greatly appreciate. The vines thus far prove to be healthy, hardy and productive. Fruit ripens about with the Concord.

"*Purity*.—This has been very appropriately named if delicacy of flavor and transparency of fruit, or freedom from color, are a fitting gauge. The fruit is white; bunch and berry small. In flavor it is thought to surpass the Delaware, which variety it precedes about one week in ripening.

"*Golden Drop* is a very early golden yellow grape, tinged with red. The berries and bunches resemble the Delaware very much in size, being small to medium, but the fruit ripens earlier. The variety originated at the far north, and may prove quite valuable on account of its earliness, hardness and productiveness.

"*Early Victor*.—A promising new extra early black grape. It originated in Kansas, and has now been tested sufficiently in a number of States to show that it is possessed of qualities of decided merit. Bunch and berry of medium size, fruit of good quality, ripens a week or two before the Concord."

"*Amber Queen and Naomi* are green or yellow grapes that are destined to create considerable excitement among fruit growers. They are both very showy, and may prove very popular among amateurs. The Naomi ripens with the Concord and is remarkable for its delicious quality and beauty."

## Growing Cucumbers.

It ought to be very easy to grow good cucumbers; yet very many people fail in doing so. The seeds grow well enough; but as soon as the weather gets warm, the young fruit seems to rot on the stem near the root, and a whole plant with in a single day and never recovers. The great point in cucumber growing seems to be that, in addition to high temperature, it loves a moist atmosphere. There must be a tremendous evaporation through so much leaf surface, and all the moisture to supply this waste comes through one small stem and by the aid of roots, which have to get all the moisture within a very small circle. A partially shaded place, therefore, where the plant can get all the moisture it needs from the earth, and yet not be exposed to great evaporating influences, would be just the thing for the cucumber. A hillside, exposed to the warm summer's sun, is not quite the place for it. It is well enough for the heat, but not for the moisture. A north side of a board fence would be the very best spot.

Of course this relates to garden culture. In field culture, a low bottom, warm and not wet, but with a rather damp atmosphere settling in about it, would be the best possible position to insure a good cucumber crop. The leaves, too, cover the whole surface, as they must when running at the end of the ground. A cucumber of the ground is not at all out of the way in this article of culture. Some have had excellent success with cucumbers, by training or rather tying them up to stalks; but the little tendrils seem to need something to cling to. A bundle of twigs sticks would be much better. Set round in a circle, and tied together at the top like a shock of corn, it is quite likely that first rate cucumbers could be grown.

All this is for regular table use. For pickling they are simply grown later in the season, in which case there is less tendency to make vines than the early town ones. There is not a much better variety than the old prickly. The beautiful long smooth kinds of the English gardeners are not very great bearers in the open air, and are much more liable to die off under unfavorable circumstances. — *Germantown Telegraph*.

## Line Fruit Trees.

We have known cases in which much unpleasantness has ensued between neighbors on the question of ownership of the fruit and nuts on trees growing alongside of the line. The owner of the land on which the trees stood claimed all the fruit and nuts; and in one instance that we know, he insisted upon his right to go upon his neighbor's land to gather up the fruit that had fallen, also to get that which had been

shaken down. But the law, wherever a case of this kind has been tried, was against this claim. The owner of the land into which the roots of his neighbor's trees ran is entitled to all the fruit of the overhanging branches.

But the law seems to be different in England. Some time ago two neighbors, both lawyers, got into a controversy of this kind, but whether it was a serious one or was intended simply to advertise their trade, there was a difference of opinion. Be this as it may, one had a pear-tree not exactly on the line between him and his neighbor, but so that the roots went into his neighbor's ground, and the branches overhung his neighbor's property. One day five ripe pears fell off on the neighbor's ground from the overhanging branches, and these were picked up and thrown over the garden fence, and of course damaged by the throwing. He claimed, therefore, sixty cents damages, the value he put on the five pears. The matter was in itself trivial, but no doubt there had been much angry feeling and dispute about their respective "rights" long before this. The suit was simply on "the last feather which broke the camel's back." The court decided that the defendant had no right to throw the pears over and thus risk their damage, but should have sent them around to his neighbor; but, as the damage was not total, the claim was reduced to twelve cents, presumably that though bruised some parts of them were of use.

We cannot imagine where the magistrate got his law from to oblige a person to carry the pears carefully to his neighbor, or to have anything to do with the pears at all. But we fancy that he was a country justice, who had his own idea of law, and not of the law itself as it existed. In this country such a decision would have been hooted at; and if we had any body here mean enough to go to law for such damages, and be a lawyer "to boot," it would be an end of him socially and professionally, and he would have to "move." — *Germantown Telegraph*.

## Plant White Beans.

Dr. T. H. Haskins in the *American Gardener*, advises: "Waste or damaged beans are an excellent fertilizer, well worth a dollar a bushel for that purpose, especially where a rich nitrogenous manure is wanted to use in the hill for cucumbers or melons, or broadcast on onions. I have used a great many bushels of waste beans in this way. I prefer to have them ground, but they may be prepared by composting them with loam, shovelling them over occasionally until well rotted. Such a compost, made one-third of beans and two-thirds of loam, is as strong as good hen manure. But good beans are worth more for food than for manure. As those who do not keep sheep or goats cannot utilize them for feeding to stock, they will find it a good plan to grow such as are acceptable, when dry, for the table. This can be accomplished by planting only the white-seeded varieties. Nothing is sacrificed in quality by this selection. Among the dwarf sorts the Crystal White Wax, the White Seeded Valentine and the Large White Kidney rank with the first for snap (string beans), while the last named is one of the best for cooking green, either alone or in succotash. All three of them are first-rate for baking or for porridge. The Crystal White Wax, especially, is in my opinion the best flavored and most easily digested of all beans used for cooking in the dry state. Among the running beans a similar selection is easily made. The Early Dutch Case Knife is an excellent bean for use, green or dry. The Extra Early Lima, and the Small Lima or 'Sewee' beans, and the Large Lima, where the season is long enough, are all first rate for every use, green or dry. It will thus be seen that families have no need to plant any kind of beans that are not useful and desirable for the table under all circumstances. It is quite a convenience, and a desirable item of economy, to be able to gather from the garden not only a summer, but also a winter, supply of this most nutritious, and, to many, one of the most acceptable, of garden vegetables."

## Florida Oranges.

Oranges grow in the sun. All Florida is a bed of white sand, enriched by phosphates. These phosphates are in the shape of decayed animal matter. The sand is specked with shells, the occupants of which have died and gone to enrich the soil. So an orange grove is set out in a sand bed. Fifty trees are set to the acre, which gives each tree about thirty-five feet. Late orange raisers are setting thirty-five trees to the acre. The tree commences to bear when eight years old, and keeps increasing, so far as any one knows, forever. The age of an orange tree is not known. They continue to bear for no one knows how long. I saw trees forty years old. They were forty feet high, eighteen inches through, and bore 10,000 oranges. Col. Hart of Palatka told me that he had sold \$300 worth of oranges in one season from one of those fine old trees. An orange grove has to be cultivated constantly. It is harrowed and cow peas are sown in the spring. In the fall the cow peas are turned under to fertilize the soil. I believe there are now orange trees enough in Florida, when fully grown, to supply the world with oranges. Oranges commence ripening in December, and ripen all along till March. It is a delightful crop for a farmer to raise, because he has plenty of time to harvest it.

This is the way they harvest oranges: The oranges are cut off the tree with shears, and sorted by rolling them down a right angled triangle open at the bottom. The little ones go through the opening first; and the very largest ones roll clear to the end of the trough. Then they are rolled up in paper, boxed up, and sent to New York, freight fifty cents a box. A box will hold from 100 to 150 oranges. A tree will bear from 200 to 8000 oranges. A tree paying \$200 of course would be a phenomenal tree, very old and splendidly cared for. Col. Hart told me he realized \$175 from one tree. Groves produce from \$50 to \$500 an acre, according to age and cultivation. An orange grove of twenty acres will sell for \$40,000. There is much money made in the cultivation of oranges, but

much patience and skill are required. Many Northern men have failed, because they simply set out the trees and then go away and leave them. They have to be constantly attended to. They are not a sure "bonanza," and really only the patient, skillful and painstaking get rich in their cultivation.

Good sweet oranges in Florida are worth from \$2 to \$4 per 100. Boys all over Florida peddle small, delicious oranges two for five cents. The small, sour Valenciennes oranges, which sell in Chicago thirteen for twenty-five cents, would not be eaten in Florida. Some groves in Florida, well kept up and well fertilized, produce large, sweet oranges, which sell on the ground for \$4 per 100. Such oranges would be sold for \$7 in Chicago. The Mandarin orange, a new variety in Florida, is the highest priced. They are worth \$6 per 100 in Florida. They are very sweet. They are called the kid-glove orange, because a lady can peel them without soiling her glove. They grow on small trees, seldom producing over 200 to a tree. The Tansan orange is produced by engraving the Mandarin on the native orange tree. The fruit is about the same. Both come from dwarf trees. Orange trees and pineapple plants can stand a good frost. Freezing kills them, but a good frost is a benefit. It kills the insects. So the best pineapple groves and orange groves in Florida are along the tropical belt. — *Eliz Perkins*.

The American Association of Nurserymen, Florists and Seedsmen, will hold its seventh annual meeting in the city of Rochester, commencing Wednesday, June 21st, at 11 o'clock, A. M., and continuing three days. It is hoped and expected that there will be a large attendance from all parts of the United States and Canada—Rochester being so accessible and so well known as a great center of the nursery and seed trade. The objects of the Association are: 1st.—To afford the members an opportunity to cultivate personal acquaintance, and 2d.—The discussion of subjects of practical interest to the trade. All who feel interested in the work of the Association are invited to attend and participate in the proceedings. Specimens of fruits, flowers, seeds, plants, implements, etc., are solicited for exhibition. It is expected that there will be an exhibition of strawberries, cherries and roses, with other flowers of the season, held in Rochester during the meeting, due notice of which will be given.

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The Massachusetts *Ploughman* declares that ten small seeds fall to germinate because of being planted too deep, to one that falls to grow because of poor quality, and says we ought never to lose sight of the fact that nature, when left to herself, plants very near the surface. From this it would seem that the nearer a seed is to the surface, and obtain moisture enough to cause it to grow, the more natural is the condition.

The White Malaga belongs to the family of foreign raisin grapes, in which the skin is thick but rather tough. They are much of their keeping qualities to the nature of the pulp, the berries being next to the skin is juicy and soft. Just here is where the main difference between foreign and native grapes is found; ours are "bags of wine" next to the skin, and the pulp, or hard part, is found next to the seeds, when it exists; while just the contrary is the case in most foreign varieties, and this is the true reason why the foreign usually keep better than our own.

The Philadelphia *Farmer* says: Orchardists have tried in many ways to make their apple trees bear annual crops, instead of biennial ones as is the case, practically. But, as we stated last fall, there are many kinds of apples which may be relied on for an annual crop, and why not plant more largely of these kinds? In Pennsylvania, for instance, the Red Astrachan and White Doctor never fail to give fair crops. A writer in the *Virginia Rural Messenger* names the following kinds as reliable in the same way: King of Tompkins County, winter apple; Horse Apple, summer; King of the Pippins, English, fall; Winter's Pearmain, fall; Horibut, late fall; Yellow Bellflower, early winter; Chronicle or Cotton Apple—has been kept in good condition two years; Standard's Seedling, winter; Golden Dixie, large, good and very beautiful early apple, described in Downing's third appendix. Striped June, among the earliest; American Golden Russet, excellent late fall; Ramsdell's Seedling, late fall, and yields every year enormously if well fed."

LADIES who have the care of house-plants will do well to note the following from the New York *Tribune*: "Human tissue is as good a nesting-place for red spider as the tissue of plants. Probably it is better, being warmer. They seem to burrow like ticks under the cuticle, and increase amazingly. A lady whom I knew had occasion to remove from one part of her house to another a dracena, which must have been loaded with spiders; the spreading leaves came across her arm and shoulder, some touched her neck and face. After this she was annoyed with something like the sharp bite of insects, but finding nothing whatever where she thought she was bitten, and not dreaming of the cause, she was exceedingly perplexed. The half-fancied that the old-time persecution by witches had returned, or that she was attacked by some unheard-of disease. Finally she appealed to science, and the microscope revealed on her neck and shoulders little colonies of red spiders, apparently happy and in a flourishing condition. She vibrated energetically between parlor and bathroom for a few days, and at length announced total extermination."

A CORRESPONDENT of the *N. Y. Tribune* says: "Among the many desirable things that one may have who has a pond or quiet lake in the vicinity is the *yellow lotus*, *Nelumbo*, yankin plant or water chinquapin, as it is variously called in different localities. The flowers of this magnificent plant are semi-double, cup-shaped, of a delicate straw color and have a pleasant fragrance; they measure from five to ten inches across, the leaves are circular in outline, from one to two feet in diameter, of a fine satin-like texture and beautifully marked with light and dark shades of green; they are attached to the leafstalk by the centre. Both flowers and leaves are lifted on stems several feet above the surface of the water, the length of the

stem being proportional to the depth of the water. The grace and beauty of these plants as they wave their slender stems to every passing breeze is beyond description. West and south this lotus is common, but has only been noted in few localities in the eastern and middle States. There is little doubt that it would prove hardy in almost any part of the country where the water is sufficiently deep to allow the fleshy rootstalks to bury themselves below the danger of freezing. To grow the plants it is only necessary to throw the seeds into the water, and then not allow the young plants to be disturbed till they become well established. The seeds may be obtained from almost any seedman under the name of *Nelumbium luteum*."

THE NARCISSES.—Narcissi are found in a state of nature in the grassy glades and margins of woods, or the upland meadows of semi-alpine districts, while some few are at home in the sandy districts near the shores of the Mediterranean sea. In each of these districts they obtain plenty of moisture during the growing season when the leaves are off the trees, the snows are melting, or the rainy season prevails; while in each there is a long season of dryness, during which the bulb may ripen off and rest for the next year's display. These conditions must be as closely imitated as possible in cultivation. Some of the more delicate kinds must be grown in pots, owing to the temperature of our northern latitude being lower than that of their native habitat; but for the more hardy kinds no place is so suitable as the turf of some sheltered meadow, or the borders of the shrubbery. Not on the close shorn lawn, but in those nooks and corners of the garden where the grass is allowed to grow longer, and where the mowing machine is seldom heard. Here they will find a congenial home. The winds of March may beat them down, but their bowing heads will fall on a springy cushion of grass instead of on the rough earth, and rise again in the following sunshine, unsmothered and fresh. They should be left untouched, as a rule, their bulbs only being raised from the ground for division or multiplication of the crows, and when this is done it should be done early in the autumn, before their roots have begun to spring, or the flowers of the following year will surely be affected. But they should not be altogether banished from the trim kept garden. Here in the margin of the bed of shrubs they may find a fitting home, and a collection of narcissi may be maintained in a flourishing condition.

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## Aptarian.

The practice of keeping bees in the streets of Paris has become such a nuisance that hereafter no one will be allowed the privilege except those having a permit from the Prefect of Police, and all to whom such permit is not granted, must remove the hives within eight days.

DR. LACHARD says, in the *Ziener Zeitung*, that the food which the bees feed to the young larvae is not, as has been supposed, a mixture of honey and pollen. He says that if it was a mixture of honey and pollen the pollen could easily be seen by a high powered microscope. No pollen could be found in that white substance deposited by the bees around the larvae in the cell.

says that the food for the young larvae is the product of a combination of pollen and honey, and that it can be compared with the milk of mammals. Later the larvae gets, with the food a portion of undigested pollen. According to the amount of pollen a bee larva consumed in the food, the cells will be more or less colored by the same.

E. E. HASTY, in the *Bee Keepers' Exchange* says that in wintering his bees he puts a tray of sawdust two inches deep underneath each hive. A board bottom will get little puddles of water on it; and in cold weather they turn to ice. Ice in the hive prevents the bees from getting the proper benefit of the winter's sunshine and warm spells; a tray of dry sawdust lets whatever water may accumulate sink right down, keeps the bottom in beautiful order, and is a grand help in preventing dampness. A strip of board two inches wide runs across the tray, in order that the partition between the two colonies may have something firm to rest on at the bottom and be pushed down tight.

FULLY four-fifths of all the honey that goes to market is slung from the combs by a machine called a honey extractor, which consists of a large tin can containing a revolving frame to hold the combs, and which removes the honey from the cells by centrifugal force the same as water is slung from a grindstone when rapidly turned. Before the combs are put into this machine the cells are all uncapped by a knife made expressly for the business. By this arrangement the honey is secured at a great saving of comb, which is put back again into the hive to be again filled by the bees. The comb or wax the bees make from honey, and it had been determined that in making one pound of comb, they consume from 10 to 15 pounds of honey in its production.

Among the many unexpected developments of electrical science is an application to the hiving of bees when they swarm, successfully tried by German experimenters. It was thought that by utilizing the electrical force the bees might be stupefied for the necessary period of time without being injured, and the result proved the correctness of the idea. The first attempt was made upon bees that had gathered upon trees, the insects falling upon the ground in a kind of trance, which admitted of their being safely handled. The next step in the experiment was to capture the bees when they were about to swarm. By introducing the ends of two connecting wires into a fully occupied honeycomb, and turning on the current, the bees were rendered inactive for about thirty minutes, while no bad results appeared to follow their awakening. — *London Times*.

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## Poetry.

## BOHEMIA'S LAND.

A SONG OF THE REASON.  
Which is the way from the crowded city,  
To a land of shadow and silent peace,  
Where women can love and men can play,  
And tears from sorrowing eyes may cease?  
For the tolling town is harsh and hollow,  
And hate points eastward, envy west;  
Then gh many may fall, yet some will follow  
To a home of dreams and the haven rest.  
For the love of heaven, stretch forth your hand,  
And point the way to Bohemia's land.  
We are the fields and their emerald clover,  
The wayside flowers and the traveling car,  
The new-found love and the long-tried lover,  
They are better by far than our feverish art.  
We are sick unto death of jealousy's fever,  
The secret dagger, the ceaseless strife;  
Here's triumph in fame, but freedom's better;  
So give us a taste of a wandering life.  
The senses sicken as fancy's hand  
Pours endless love in Bohemia's land.  
Bohemia's ways are strewn with flowers,  
Her children free from the revel of wine;  
Her dust is shaken by the sweetest showers,  
"Neath covering trees they feast and dine.  
When care creeps close, why away they wander  
To seek whatever the mind loves best;  
For hope endures when the heart sees yonder  
A pure life and a surer rest.  
How many despair, but how few withstand,  
The ceaseless joys of Bohemia's land.  
To the fields away! for nature presses  
On tolling forehead a balmy breeze,  
There's nothing so sweet as her wild caresses,  
There's more love for the lips than the lies,  
God grant, my brothers, when all is over,  
And holiday hours cut short by fate,  
That the sense of flowers and the scent of clover  
May soften sorrow and silence hate.  
Old time runs measures the fatal sand,  
And the certain falls on Bohemia's land.  
CLARENCE SCOTT.

## SWEET CLOVER.

I have breathed a tinted air  
Of delicate odor  
Feeling something new and rare  
Since first I saw her.  
Sudden glow in garden glade  
Where she's so sweet;  
We meet—I give her, half afraid,  
Sprays of sweet clover.  
She's reading now her book,  
I'll not disturb her;  
Merely o'er her shoulder look—  
Lo! the sweet clover.  
It was twilight's softest hour,  
Fragrant and tender—  
Life burst to glorious flower  
In her surrender.  
It's all one splendid rose—  
Perfect completeness!  
Who cares how the world goes?  
We're all its sweetest!  
We journey here and there  
In various weather,  
Little rock we how or where,  
Since we're together.  
Fair home all sheltered sweet  
Caresing and caressed;  
Children playing at our feet,  
Blessing and blessed.  
Love's sacred volume read  
Over and over,  
Every page, since we were wed;  
Scented with clover.  
A sweet-leaved mound apart,  
Green in October;  
Alone!—Ah! the left heart—  
Soul of sweet clover!

## Miscellaneous.

## PAMELA'S FACULTY.

They talked over Deacon Semple's death in the sewing circle. It was very sad that he should have died. So suddenly, too, of pneumonia, poor man. But Mrs. Perkins, at whose house the society met that week, couldn't help thinking that it would have been a very dull meeting if he had not; for since everybody had found out just why Luke Judkins had been obliged to mortgage his farm, and Dr. Saunders's marriage with his housekeeper had become an old story, there was absolutely nothing to talk about. It was also providential that he should die just after planting was over, and before haying had begun. He was growing very deaf, too, and was always shiftless. Being a deacon, of course he was prepared, and there was really not much to mourn for, except that now Pamela would have to take care of herself, and Pamela had no faculty. Ruthy Ann could go on keeping school, as she had done for years, and the twins, luckily, were married. Pamela was the only one that was left unprotected, for—the kind that had no faculty.

The farm was all run out, and if it were not, Pamela wouldn't know any better than to expect to raise pumpkins on a pea vine. If she was a farmer's daughter she didn't know but what potatoes came up of their own accord, and weeded and dug themselves. Mrs. Ichabod Badger (generally known as Miss Ichabod) thought it probable that she even supposed that they washed themselves, and jumped into the dinner pot. And it was evident that she set a sight more by posies than she did by garden sass. She was always littering out the house with weeds and stuff out of the woods, and she drew pictures when she'd better have been drawing candles or making soap. She took after the Spencers—her mother's folks. One of them was a half-witted and wrote verses, and another painted pictures, and never amounted to anything. And Pamela was headstrong; she never seemed to pay any attention to good advice. She was always as pleasant and amiable about it as could be, but she would go right on in her own way. That was like her father; when they tried to dissuade the Rev. Mr. Caldwell for unsoundness of doctrine, Deacon Semple he wouldn't agree to it. He didn't get excited and call hard names, as the others did, but though they argued and argued, he wouldn't be convinced.

Miss Ichabod was of the opinion that a committee of ladies ought to call upon Pamela, and advise her to go and keep house for old Hiram Hutchinson. He had a large farm and two invalid daughters, one afflicted with spinal disease, and the other with epilepsy; so 'twas a hard place, and of course she would keep everything at sixes and sevens, not having any faculty; but old Hiram was willing to take her, because he was very close, and she wouldn't expect much. And Miss Hosesa Blodgett added that as Hiram was a widower, nobody knew what might happen. He was over fifty, and hard to get along with, but then

Pamela couldn't be far from twenty-five and ought to be willing to make a sacrifice for the sake of a home. Ben Seavers, who used to keep company with her, had gone off to sea five years before, and had probably got drowned; so saying nothing of being a shiftless, good-for-nothing, and surely there was no man in Brimblecom who wanted to marry a girl without faculty.

Before the meeting adjourned, Miss Ichabod, Miss Hosesa Blodgett, and Miss Nancy Perkins, the postmistress, were appointed to labor with Pamela. There was no doubt about the seal of the committee. Bright and early next morning—so early, in fact, that the breakfast dishes were not washed in any town except Brimblecom—the three ladies presented themselves at the front door of Deacon Semple's late residence; front doors were reserved for state occasions in Brimblecom. The committee, after consultation, had decided that this was an occasion which rendered the use of the front door appropriate.

Keturah Grant, who had been maid-of-all-work in Deacon Semple's family for half a century, hobbled to the door, and admitted them to the sitting-room; and there was Pamela, with a great bunch of weeds—buttercups and clover and white weeds—painting, actually painting, at that time in the morning! She wore a high-necked and long-sleeved apron, which was bedaubed with paint, and on her nose was a smirch of bright yellow.

The committee with one consent heaved a deep sigh. "Seem! Scripture commands not to be kind to the widow and the fatherless, we thought we'd come and tell you that old Hiram Hutchinson wants a housekeeper," said Miss Ichabod, who had been chosen chief spokesman, in view of the "flow of language" for which she was renowned.

Pamela turned an innocent, puzzled face upon Miss Ichabod—a very lovely face, with a pure pale skin, and soft shy brown eyes, though in Brimblecom, where rosy-cheeked beauties were the fashion, they had never thought of calling it so. "Oh, the widow! I couldn't think for the moment what you meant. Poor man! I am sorry if he can't find one. But nobody could expect me to give up Keturah, surely! She is growing too old; and she wouldn't leave me, anyway."

The committee looked at each other. Their mission seemed a somewhat difficult one to perform. Was Pamela so innocent as she looked? Miss Ichabod had a dreadful suspicion that she was deep, and she resolved not to be daunted. "You thought you might like the place yourself, seel," said she of kind of dependent," she said.

"I! Oh dear! I haven't the least bit of faculty, you know," and Pamela laughed merrily.

"Them that hain't got any faculty have got to try to do something, if they don't want to be objects of charity," said Miss Ichabod.

"I don't think Brimblecom will ever have to take care of me. If it does, I am such a little thing it won't cost much."

There was the suspicion of a flush on Pamela's cheek and a tense look about her mouth that the committee did not observe. They only saw her laugh, and they arose in high disgust.

"I hope the time won't come when you won't find it a laughing matter," said Miss Hosesa Blodgett, who was determined not to come away without saying anything; that would be so humiliating to tell of. "Oh, I hope not," said Pamela, sweetly. "That was the very worst thing about Deacon Semple—you never could make him mad," said Miss Nancy Perkins, as she opened the gate. And though the other members of the committee wouldn't acknowledge it, Pamela's resemblance to her father in that respect was the thing that they had found most aggravating in their interview with her.

Before they had reached their homes they repeated that they had not said more, but there was something in Pamela's manner that made it seem an impossibility. The committee could not explain it clearly. Pamela had been quite pleasant and polite, but they didn't dare to go again. However, they quite agreed that the matter ought not to rest there, and they were with Mr. Stockbridge, the minister, upon the subject. Perhaps he could be induced to advise her. She would not dare to be so high and mighty with her minister.

The Rev. Mr. Stockbridge was a grave and dignified man of nearly forty, who, when he had first come to Brimblecom, ten years before, had had the caps of half the young ladies of his parish persistently set at him. They had now, if they had not wholly abandoned the cap-setting, learned to "draw it mildly, lest it were all in vain," for the minister had never shown the slightest signs of being caught. He seemed embarrassed when the committee visited him and made known their errand. As Miss Hosesa Blodgett said, in describing the interview to her friends:

"He kinder turned red, and then he kinder turned white, and he looked all ways for Sunday, just as if we'd said something that wa'n't proper. And when he said anything, which wa'n't for as much as a minute, he up and said just as good as to say that he didn't consider 'twas any of his business. But Miss Ichabod she jest talked and argued beautiful about how the town would have to take care of her, and bein' her father was a deacon, the church ought to do its duty, advise and labor with her if she was headstrong and set up, and convinced him—with a few words that I let fall as 'twas given me to speak—and he said he'd go and deal with Pamela accordin' to the best wisdom and judgment that was given him. When she sees him a-comin' she'll dowse her peak, for there's nobody in Brimblecom that ain't afraid of the minister."

Within a week the committee waited upon the minister to hear the result of his advice to Pamela. It was very hard to find him at home; they tried four times before they succeeded. If he had been anybody but the minister, they could not have avoided the painful suspicion that he slipped out of the back door when he saw them coming. And when at last they did find him at home, his report was not altogether satisfactory.

"Miss Semple did not care to accept the position of housekeeper to Mr. Hiram Hutchinson," he said, as if Pamela were the greatest lady in the land, and could pick and choose positions. But then he was a minister, and ministers couldn't be expected to talk like common people. "What is she a-goin' to do, then?" demanded Miss Ichabod, severely. "I don't know of any other chance for her."

"I-I offered her a position, but she declined that also," said the minister.

The committee looked thunder-struck. "I do hope it wa'n't to keep school," said Miss Hosesa Blodgett, recovering herself, suddenly, "for she hain't a mite of faculty, everybody knows. Why, I asked her once if she understood mathematics, and she said she could do addition if you gave her time. My Angella understands mathematics, and besides beautiful learning, she's got a real faculty for keepin' school."

"It was not a position as school-teacher," said the minister.

"She could kind of get along with housework, though she hain't any faculty. I hope the folks ain't very particular," said Miss Ichabod.

"As she declined the position, it does not seem to matter whether they are or not," said the minister.

If Miss Ichabod had not stood very much in awe of the minister, he would have then and there received "a piece of her mind," as she afterward declared; "for if there was anything that provoked her beyond endurance, it was a close-mouthed person." But as he was the minister, there was nothing to do but to take leave of him with a coldness and dignity which should give some token of their displeasure.

As if he couldn't tell them just as well as if they wanted to life Pamela to do housework! But there was one comfort—the committee knew there was nothing going on in Brimblecom that they couldn't find out.

And just after she had expressed that opinion, Miss Ichabod was so overcome by some sudden thought that she fairly gasped, and leaped for support against the town pump, which providentially stood in her way.

"I heard that Joanna Leach wanted to go home because her sister's twins had the measles. The minister wanted Pamela to keep house for him!" she gasped.

"Well, Miss Ichabod, if you ain't got an understanding 'worth havin'! And though I never breathe it to a mortal before, I've had my suspicions that the minister wa'n't all he'd ought to be," exclaimed Miss Hosesa Blodgett.

"I never knew a man to have one white eyebrow for nothing," said Miss Nancy Perkins, darkly.

Before night the report had spread all over Brimblecom that the minister had asked Pamela Semple to keep house for him. Mr. Stockbridge was certainly the last person to be suspected of an impropriety, but appearance was deceitful. He surely must know that he ought to have a housekeeper who was at least fifty, and it was eminently proper that she should be toothless, cross-eyed, and disfigured by the small-pox, as Joanna Leach was. If Pamela were an especially capable person, the case would be somewhat different; but to be willing to bear with a housekeeper who had no faculty, he must have a personal regard for her.

The oldest inhabitant could not remember such an excitement in Brimblecom. The Rev. Mr. Caldwell's heresy had been tame, and the report that Dr. Saunders had another wife living only mildly exhilarating in comparison.

But several weeks went by before any sound of it reached the minister's ears. Happily for him, Brimblecom had a whole-some fear of the minister. But at length, owing mainly to the efforts of Miss Ichabod, Miss Hosesa Blodgett, and Miss Nancy Perkins, it was decided that at the next church meeting one of the deacons should question the minister concerning the matter. Such a crying scandal must no longer remain uninvestigated.

It was a great day for Brimblecom. There had not been such an attendance at a church meeting since the Rev. Mr. Caldwell's trial for heresy. Mrs. Deacon Simmons said it seemed so much like county conference that she got up at four o'clock, and went to baking a great batch of pumpkin pies before she remembered what she was about.

If the minister had an idea of what it all meant, he gave no sign, and when Deacon Simmons, with awful solemnity, and with a long preamble concerning the duty of a minister to set an example to his flock in righteousness, asked him if he thought it seemly and becoming to ask the daughter of his late Deacon Ephraim Semple to become his housekeeper, the minister quietly replied that he had never done so.

The committee looked at each other, and everybody else looked at them. Miss Nancy Perkins felt, as she afterward expressed it, as if she "would like to go through to China"; but Miss Ichabod bore up nobly, and Miss Hosesa Blodgett relied upon Miss Ichabod.

"Didn't you tell a committee consistin' of Miss Ichabod Badger, Miss Hosesa Blodgett, and Miss Nancy Perkins that you had done so?" pursued Deacon Simmons.

"I did not," said the minister, with an air of bland and innocent surprise. "This was too much for Miss Ichabod. She arose, and shaking her forefinger impressively at the minister, demanded: 'Didn't you tell us that you had offered her a situation to keep house? And who in this livin' world could it be that wanted a housekeeper but you?'"

"You misunderstood me," said the minister, with great politeness. "I said I had offered Miss Semple a position, and it was not to teach school."

Miss Ichabod sat down, because nothing occurred to her to say, and for a time there was silence. Then Deacon Simmons arose, and said, like a second Adam:

"I hope you won't take no offense, nor think nothin' more about this, Mr. Stockbridge. It's somethin' that the women-folks have got up amongst themselves, and I guess it don't amount to but dretful little."

"To relieve any further curiosity about the matter," said the minister, looking straight at the committee, "perhaps I had

better explain—although it is an explanation which a man doesn't often make in public—that the position which I offered Miss Semple, and which she declined, was that of your minister's wife."

Miss Ichabod always averred that it if hadn't been for a bit of cinnamon which she had on her tongue, she should have fainted then.

The church-meeting broke up suddenly, the sentiment which Miss Hosesa Blodgett expressed being apparently the sentiment of all—that she should have died in five minutes if she couldn't have got out where she could talk it over.

"Don't talk to me about that girl!" exclaimed Miss Nancy Perkins, with deep feeling. "There never was a man that I'd took so much faculty to get as the minister."

"And she wouldn't have him! Depend upon it, there's more in that than meets the eye. She's deep," said Miss Ichabod.

"What do you think Miss Hosesa Gregg whispered to me in meetin'?" said Miss Hosesa Blodgett. "She says Pamela sells the pictures she paints for money—sends 'em off to the city. And besides supporting her and Keturah, she's a-goin' to pay off the mortgage on the farm."

"I hain't never been sorry that I was brought up to work," said Miss Ichabod. "Vanity and folly may prosper for a season, but we all know where the downward path ends. If Pamela Semple hadn't been sent away to the academy, she might have been as likely and well-behaved as any girl in Brimblecom—if she hadn't any faculty."

And with these remarks Miss Ichabod withdrew herself from the council.

On the even tenor of her way went Pamela, working early and late with her brush, and before long a report found its way to Brimblecom that she was considered a remarkable artist, and some things were evident to Brimblecom sense; the mortgage was being paid off; the crops were in a prosperous condition, and old Keturah was renewing her youth.

Brimblecom began to be proud of Pamela. It almost forgot that it had ever been afraid she would become a pauper. Nobody seemed to remember that she had been thought to have no faculty—nobody but the committee.

One of two persons were actually heard to say that it was a pity she wouldn't marry Mr. Stockbridge, but perhaps she had a right to look higher than the rest of the Brimblecom girls. Miss Ichabod always shook her head with mysterious meaning, when Pamela was mentioned, and said, grimly, "Them that lives longest will see most."

One day triumph came to Miss Ichabod.

The committee were in the post office—Miss Ichabod and Miss Hosesa Blodgett were often so kind as to assist Miss Nancy Perkins in assorting the mail—when in came Mrs. Deacon Simmons, who was fat and scant of breath, and in such a state of excitement that the committee had, all severely, to fan her vigorously before her news could be extracted.

"Don't you think, as true as I'm a livin' woman and not a corpse, as I might expect to be, hearin' such upstirin' things and hurryin' so?"

"Go on, go on! don't lose your breath!" cried the committee, in chorus, fanning vigorously. "We'll never breathe it to a soul."

"Oh, it's all over Brimblecom. That good-for-nothin' cretur Ben Seavers has come back, without hardly so much as a coat to his back, and the rheumatic fever. Been cast away on a desert island, and eat up by cannibals 'most—which nobody can't say wa'n't exactly like him—and nothing but skin and bones, and the doctor says most likely won't never be good for anything again, not to mention that he never was. And Pamela's took him in, and she and Keturah is a-nussin' him up. And that ain't the worst of it; the minister went over and married 'em! She's took that goot-for-nothin' cretur to take care of for life—her that might 'a' had the minister!"

"They never got me to believe that she had any faculty," said Miss Ichabod—Sophie M. Selett, in Harper's Bazar.

## The Care of the Eyes.

At the recent Sanitary Convention at Ann Arbor, Mich., Dr. J. C. Lundy, of Detroit, read a paper on "Hygiene in Relation to the Eye," which should have the widest circulation, especially among teachers and school officers. A fruitful source of eye troubles is shown to be the excessive strain upon the muscles and nerves of the eyes, due to faulty educational methods, the ill-planned and insufficient lighting of school rooms, poor ink and fine print in school books, and other causes, which education might correct.

In conclusion, Dr. Lundy lays down the following rules for the better care of the eyes:

1. Avoid reading and study by poor light.
2. Light should come from the side, and not from the back or from the front.
3. Do not read or study while suffering from great bodily fatigue or during recovery from illness.
4. Do not read while laying down.
5. Do not use the eyes too long at a time for near work, but give them occasional periods of rest.
6. Reading and studying should be done systematically.
7. Daring study avoid the stooping position, or whatever tends to produce congestion of the head and face.
8. Select well printed books.
9. Correct errors of refraction with proper glasses.
10. Avoid bad hygienic conditions and use of alcohol and tobacco.
11. Take sufficient exercise in the open air.
12. Let the physical keep pace with the mental culture, for asthenopia is most usually observed in those who are lacking in physical development.

The New York Herald drops the following observation: "The subscription for the benefit of Mrs. Jesse James will probably be a pleasant thing. The people of Missouri will carry this affair through unaided, strangers who formerly passed through the State having subscribed long enough for the support of the family."

## The Mississippi Levees.

The recent floods in the cotton growing States along the Mississippi River, which have cost that section millions of dollars and inflicted great damage to the cotton-growing and sugar interest, have convinced people generally that some means must be devised to prevent a recurrence of such disasters. The building of levees, for which Congress has just voted an enormous sum, is really useless, as they will be swept away whenever an overflow like this last one again occurs. In fact it is worse than useless to build them under present circumstances, as it will only encourage people to go on and make improvements, relying upon them for protection, and it has been repeatedly proved that they are totally inadequate to afford it. It looks as if the only way out of the difficulty is to give the surplus water free exit by opening up new outlets or enlarging and straightening old ones. Work in this direction must be commenced sooner or later, for the continuous losses suffered under the levee system are too heavy a burden to be longer carried. In that connection we note that Herr Ernst von Hesse-Wartegg, a distinguished German engineer now visiting this country, in discussing the question of prevention of floods in the Mississippi Valley, says that the only plan is to assist the great river in its effort to enlarge and shorten its channel to the gulf. He mentioned the Po, in Italy, a comparatively small stream, as furnishing an example of the inefficiency of earth embankments to prevent inundations. It has magnificent dikes, but they are broken through by almost every flood, and the bottom lands inundated. Herr Wartegg thinks that the money already expended in levees for the Mississippi has been wasted. He would assist nature by changing the outlet of Red river to the gulf through the Calcasieu river, emptying into the Calcasieu bay; give the Yazita an outlet to the gulf through the Atchafalaya, and give the Mississippi a new outlet to the gulf through Lakes Borgne and Ponchartraine. By these means he believes the danger of disastrous overflows, such as that from which a large area of the lower Mississippi Valley has just suffered incalculable loss, would be averted and that they can be prevented in no other way. While these measures would be expensive they would not be more so than the proposed system of levees, and if they gave permanent relief would be cheap at any price.

## Man and Insects.

The only nerves (worth mentioning) in the human body which are not under the control of the brain, are those of the heart and other internal organs; and over these parts, as everybody knows, we have not any voluntary power. But all our limbs and muscles are moved in accordance with impulses sent down from the brain, so that, for example, when I have made up my mind to send a telegram to a friend, my legs take me duly to the telegraph office, my hand writes the proper message, and my tongue undertakes the necessary arrangements with the clerk. But in the insect's body there is no such regular subordination of all the parts composing the nervous system to a central organ or head office. The largest knot of nerve matter, it is true, is generally to be found in the neighborhood of the sense organs, and it receives direct nerve bundles from the eyes, antennae, mouth, and other chief adjacent parts; but the wings and legs are moved by separate knots of nerve cells, connected by a sort of spinal cord with the head, capable of acting quite independently on their own account. Thus, if we cut off a wasp's head and stick it on a needle in front of some sugar and water, the mouth will greedily begin to eat the sweet sirup, apparently unconscious of the fact that it has lost its stomach and that the food is quietly dropping out of the gullet at the other end as fast as it is swallowed. So, too, if we decapitate that queer Mediterranean insect, the praying mantis, the headless body will still stand catching flies with its outstretched arms, and fumbling about for its mouth when it has caught one, evidently much surprised to find that its head is unquestionably missing. In fact, whatever may be the case with man, the insect, at least, is really a conscious automaton. It sees or smells food, and it is at once impelled by its nervous constitution to eat it. It receives a sense-impression from the bright hues of a flower, and it is irresistibly attracted towards it, as the moth is to the candle. It has no power of deliberation, no ability even to move its limbs in unaccustomed manners. It whole life is governed for it by its fixed nervous constitution, and by the stimulations it receives from outside. And so, though the world probably appears much the same to the beetle as to us, the nature of its life is very different. It acts like a piece of mechanism, wound up to perform a certain number of fixed movements, and incapable of ever going beyond the narrow circle for which it is designed.

—Grant Allen, in Knowledge.

## Richest City in the World.

Frankfort-on-the-Main, containing a population of about 100,000, is said to be the richest city of its size in the whole world. If its wealth were equally divided among its inhabitants, every man, woman and child would have, it is said, 20,000 marks, or some \$3,000. There are, as may be supposed, many poor people in the town, but the citizens are, as a whole, in unusually comfortable circumstances, more so, probably, than the citizens of any other capital in Germany or Europe. It is stated that there are 100 Frankforters worth from \$1,000,000 to \$2,000,000 each, and 350 who are worth \$300,000 and upward. The city is one of the great banking centres of the globe. Its aggregate banking capital is estimated at \$2,000,000,000, more than four-fifths of which the famous Rothschilds, whose original and parent house is there, own and control. The annual transactions in bills of exchange are in excess of \$100,000,000. Its general trade and manufacturing industries have greatly increased since the formation of the German Empire, to which Frankfort was originally annexed, being a free city and an opponent to Prussia, until coerced, in July, 1866, by General von Falkenstein, who entered it with an army and imposed a fine of 81,000,000 florins for its insubordination. Frankfort is such a place for conventions and assemblies of all sorts that it is apt to be full of strangers, and is consequently very expensive and by no means satisfactory to tarry in.

## India Proofs.

There are various ways in which deceptions are practiced. For instance, "unlettered India proof," as it is technically called, is, from being taken off the engraving at an earlier stage, very much superior to what is called a "lettered India proof," which is obtained after many impressions have been taken off the engraving, and when the plate has consequently become worn, and the picture lost its clearness and sharpness of line. To turn an "India proof," therefore, into an "India proof," the India print is cut down all round close to the engraving. A clean sheet of India paper, of the same tone as the India print, but of a larger size, is so shown a clean, blank margin, in then mounted on a piece of still larger plain paper, and the cut down India print in turn is mounted in such a position as to show the usual margin all round. Before drying, the manipulated print is subjected to immense pressure, which so forces the mounted print into the India paper as to entirely hide the difference in the thickness of the material. A true impression taken of a plate leaves the mark of the plate all round the picture; and to add this to the "doctored" India proof, a plain steel or copper plate of the proper size is laid on the face of the print, which is again subjected to pressure, and the deception is then so complete as almost to baffle detection. A volume belonging to a collector was supposed to contain India paper impressions of engravings to the value of \$300, but on examination they were found to be "doctored" plates, not worth \$30 in all.—[Chambers' Journal.

## "The Trapper's Last Shot."

He was probably christened James, but is always Jim now, and, along with the greater part of his christened name, he has almost entirely lost his surname. If he had been a few shades lighter, he might have been "Colored Jim," but black being the absorption of all color, this name would not fit him. He is an expert trapper and fisherman, but, rather singularly, considering these gifts, a poor marksman. For years he lugged about or carried in his boat an ancient flint-lock Queen's arm, so deadly in its action that it would kill picketed with only a charge of powder, so Jim said; yet he rarely brought home any spoils of field or flood but such as were gained by trap or hook.

Once, however, he made a very telling shot. It was on an October morning, and he was paddling his light trapping-skiff up the channel of Womakakutuk as silently as any Indian could, when, as he rounded a bend, he saw through the tall stalks of the rice at least a dozen ducks sitting among the lily-pads in the edge of the channel, not six rods from him. Here was his long-sought opportunity, and no sooner did he desecry them than a backward stroke of his paddle stopped the headway of the craft just before she poked her sharp nose in sight of the unsuspecting fowl. Then he laid the paddle in the boat without the slightest noise, and as silently lifted from her resting-place his old gun, whose true inwardness at that moment consisted of all the powder in her own: her possession and a handful of B B shot, both wadded with a half-pound or so of wasp-nest. He cautiously thrust her muzzle through the rice stalks, cocked her without a tell-tale click of the ponderous lock, set the breech-plate firmly against his shoulder, laid his cheek to the stock, took such long and deliberate aim that a spider, setting his snare among the rushes, made fast an end to his web to the rusty barrel before Jim, shutting both eyes, set his teeth, and with a sturdy pull, unhitched. There was a dazzling flash in the pan as if a kettle full of lard had caught fire, and then the noble weapon belched forth a horizontal column of flame and smoke, kicked Jim and his skiff half the boat's length astern, and gave a roar that went welling down the creek, across the lake, and was tossed back and forth from Split Rock Mountain to Shell house for five minutes before it lost its voice.

When Jim got his eyes opened and his wits gathered, he peered through the eddying smoke and saw—not a feather raised, nor one wounded duck fluttering its last, but some riding unconcernedly with their heads knocked off, and some keel up in a quarter-acre of fine splinters. Then up rose two Boston men from among the rushes, and the fire, and smoke, and uproar, and vicious recoil of Jim's gun were as nothing to the vials of wrath which they poured out upon his devoted head. Never was such paddling done on these waters as Jim did till he put half a mile of Womakakutuk's channel between himself and the scene of bloodless slaughter. Then he shoved his boat into the rushes and skulked ashore.

Next day he offered his gun for sale, giving as a reason that she burned so much powder no poor man could afford to keep her. He effected a sale at \$1.50, and has done no duck-shooting since. He says with emphatic shakes of the head, "Any man that'll try to fool ducks with them wooden images will steal sheep! Yes sir, 'course he will!"—[Forest and Stream.

## THE "CHAMPION" SHOPS AT SPRINGFIELD, O.

The Largest Agricultural Machine Shops in the World.

The Krupp manufacturing of Prussia are the most extensive workshops in existence, employing about six thousand men in making cannon, mortars, and other heavy weapons of warfare. Next in capacity and size, but engaged in peaceful instead of warlike operations, are the Champion Reapers, Works of Springfield, O., whose fame is second only to the Krupps. The recent growth of American manufactures has astonished the world, and the enormous production of Champion Harvesting Machines forms a brilliant chapter in our industrial annals. From very small beginnings, thirty years ago, this vast interest has gradually developed, until now fully one-third of all the reapers and mowers annually sold in the world are "Champions," and probably one-half of the entire grain and grass crops harvested in the United States are cut by Champion Machines.

The manufacture and sale of all this costly machinery is systematically divided between five distinct organizations, all centering in Springfield. Our farmers all know the firm of Warder, Bushnell & Glessner, who supply "Champions" for the northern and northwestern States from their Springfield, Chicago and Jackson offices; but this great house is only one factor in the "Champion" combination. Besides the extensive factories of this firm, there are the shops, both new and old, of Whiteley, Fassler & Kelly, and of the "Champion Machine Company." These three are large auxiliary organizations, owned by these three firms in common—the "Champion Malleable Iron Company," the "Champion Bar and Knife Company"—who furnish special parts needed in the construction of the Champion Machines. And the works of a third organization of this kind are now being completed—the Champion Rolling Mills and Steel Works—that will roll the needed bar iron and steel. This shows what pluck and capital can do,—just what the Champion people possess.

We have said a few words about each of the Champion Reapers, Mowers and Binders on the first page, and as the machine is known in every township of the northern States, it needs no detailed description here. The Champion is well constructed throughout, and only the best quality of material is employed. Where wrought iron is best adapted for the required purpose, wrought iron is used; where the various grades of steel are best, those grades are used; where malleable iron is best, malleable iron is used; and malleable iron, which is tough and strong to resist strain and breakages, is largely employed as a substitute for cast iron, of which but very few parts are now made. The machines are thoroughly examined and tested before leaving the factory, so that every one is right and perfect when it gets into the farmer's hands, and he is thus saved the annoyance of having to adjust it in the first place, and all trouble from its after use. Even competitors of the Champion admit that it is the best made agricultural machine; but while they might have been equally careful in the construction of their machines, and thus have earned a like reputation for them, none have had the enterprise to do this. They considered that the saving of a few dollars in the first cost yielded a large annual profit, forgetting that this saving was made at the cost of their customers, and that their machines were consequently that much poorer. By comparing the main frames, pipe boxes, shoes, cutters, guards, guard-fingers, and numerous minor parts of the Champion, with corresponding parts in other machines, it will be found that the material used in the Champion is more expensive, better, and of course more expensive,—not to mention the superior workmanship. Where others use wood or cast iron exclusively, the manufacturers of the Champion use malleable iron and wrought iron, where others employ common wrought iron, they take cold-rolled iron; and where some makers are liberal enough to use cold-rolled iron (as for mower cutter-bars), the Champion is made of cast-steel. These are honest facts, known to every machine man and well informed farmer, and we have verified them by an examination and comparison of the machines. The strict adherence to this rule,—to employ none but the best and most suitable material and workmanship, regardless of cost—has been the foundation of the Champion's success. The American farmers have become too well educated and intelligent to practice to any extent the penny-wise but foolish economy of buying cheap agricultural implements, poorly made of inferior stock. True economy is to select a substantial, well made and reliable machine, and this is especially true in purchasing a Reaper, or Mower, or Self-Binder, the most important of all the various implements that the farmer uses. "Good judgment is economy—economy is wealth."

Doctors' Fees in Europe.

Perhaps in the matter of doctor's fees it might be as well to



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ENTERTAINING HER BIG SISTER'S DEAR.

BY BERT HART.

My sister is down in a minute, and says you're

waiting for her. I'll be down in a minute, and

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say to her, "I'll be down in a minute, and

say to her, "I'll be down in a minute, and

a whole command. Now we could not

surround and conquer a pie.

Pearl to White River. When another

sun shall rise on the valley it will find

the smoking campers of our camp fires.

Our valley dogs and other household goods

will be far away. To-morrow there will

be nothing but our tears and a few empty

baked bean cans to mark our deserted

desires. The spirits of our dead will

hover over the deserted camp, and their

moans will fall upon the ear of the pros-

trated soldier as he lies in his cabin at night.

The ghost of our dead warriors will, in years

to come, tap on the window of the rancher

who plows up the bones of our dead, and

they will whoop in the ears and scare the

essential and preliminary gizzard out of

him.—Boomerang, Bill Nye.

He Clung to His Old Coat.

A good deal of amusement has been

caused in dry goods trade circles during

the past few days by the leaking out of a

little story, at the expense of two young

gentlemen who are widely and favorably

known in the trade. The father of these

young men is a prominent Market street

merchant, noted for his large wealth,

shrewd business ability, and great econ-

omy, particularly in the matter of wearing

apparel. The sons, who are models of

elegance and taste in dress, have for a long

time been particular antipathies to a cer-

tain venerable coat which has clung to

their respected parent for many years, and

often tried by persuasion to induce him to

sell it to the rag man and buy a new one,

but the old gentleman's invariable reply

was: "You pays spend money enough

for clothes for one family. Dis coat is

good enough for me." At length, know-

ing their father's fondness for a bargain,

they thought of a ruse by which to induce

him to lay off the old garment and get a

new one. Taking a coat their father had

worn they went to their tailor and in-

structed him to take it as a pattern as to

size and fit and make the finest coat he

could. "We will," said one of them, "get

father down here on some pretence or other

and then you must sell him the coat. No

matter what he offers, you take it, and

we'll pay the balance." In due time the

sons received word that the coat was finished—

price \$80. The next morning at breakfast,

the eldest son casually remarked: "Father,

you will be going near the tailor's to-day,

and I wish you would stop and tell him to

be sure and send home my new coat to-

day, for I have a party to attend to-

night."

"Very well my son, I will do so, but I

don't see what you pay with so many

new coats."

The old gentleman delivered his message,

and the tailor's opportunity had come.

Fingering the venerable garment he re-

marked persuasively: "You ought to

have a new coat. It is a shame for a

man like you to wear such an old garment



## The Flushing Sheep Shearing Festival.

The above shearing was held nearly three weeks ago, but we have only just received the report. The attendance was large, and included a number of leading breeders. In the evening a meeting was held, and papers read by Mr. H. R. Dewey of Grand Blanc, on "Sheep Breeding," and by Mr. George W. Stuart of same place on "Wool Growing." They were attentively listened to, and contained many practical suggestions. The following table gives the result of the shearing:

CLASS—FINE AND CLOTHING WOOL SHEEP.			
Division—Thoroughbred Rams.			
Name of Owner.	Age.	Wool.	Wool.
		lbs. mo. dry.	lbs. ea.
W. M. Bruner.....	1	10 12	11 15
W. M. Bruner.....	2	10 12	11 15
W. M. Bruner.....	3	10 12	11 15
W. M. Bruner.....	4	10 12	11 15
W. M. Bruner.....	5	10 12	11 15
W. M. Bruner.....	6	10 12	11 15
W. M. Bruner.....	7	10 12	11 15
W. M. Bruner.....	8	10 12	11 15
W. M. Bruner.....	9	10 12	11 15
W. M. Bruner.....	10	10 12	11 15

O. B. Hoard, of Clayton, exhibited two yearling rams, which were entered in the fleece class and were shown; but the committee on this class failed to report the weight of their fleeces.

J. A. Stone, of Clayton, also exhibited four yearling rams in the fleece class, which were not shown for want of time. They were a choice pen of rams.

W. R. Keeney exhibited two two-year-old ewes and one three-year-old ewe in the fleece class, which deserve special mention. These ewes were not sheared for want of time.

Prizes were awarded for the best shearing as follows:

First premium—Merritt Simpson, of Montrose, \$3.  
Second premium—C. D. Yerkes, Vernon, \$2.  
Third premium—W. M. White, Venice, \$1.

**The Flock of L. W. and O. Barnes of Byron.**

Barnes, Shawsboro, Mich., May 15th, 1882. To the Editor of the Michigan Farmer.

Having completed the shearing of our flock of Merinos, we send you the table of weights of a portion of the flock: Our flock consists of 67 breeding ewes, 23 yearling ewes, 40 yearling rams, and 5 aged rams. The fleeces of the 67 breeding ewes averaged 13 lbs. 7 oz.; of the 23 yearling ewes 11 lbs.; of the 40 yearling rams 13 lbs. 3 oz.; and of the five aged rams 26 lbs. 3 oz.

We commenced shearing this year the first day of May, and in 1881 May 21, the aged rams being shorn May 3d each year.

Yours truly,  
L. W. & O. BARNES.

No.	Breeder.	Sex.	Age.	Wool.	Wool.
				lbs. mo. dry.	lbs. ea.
124	William Ball	Rutherford	3	10 12	11 15
125	do	do	4	10 12	11 15
126	do	do	5	10 12	11 15
127	do	do	6	10 12	11 15
128	do	do	7	10 12	11 15
129	do	do	8	10 12	11 15
130	do	do	9	10 12	11 15
131	do	do	10	10 12	11 15
132	do	do	11	10 12	11 15
133	do	do	12	10 12	11 15
134	do	do	13	10 12	11 15
135	do	do	14	10 12	11 15
136	do	do	15	10 12	11 15
137	do	do	16	10 12	11 15
138	do	do	17	10 12	11 15
139	do	do	18	10 12	11 15
140	do	do	19	10 12	11 15
141	do	do	20	10 12	11 15
142	do	do	21	10 12	11 15
143	do	do	22	10 12	11 15
144	do	do	23	10 12	11 15
145	do	do	24	10 12	11 15
146	do	do	25	10 12	11 15
147	do	do	26	10 12	11 15
148	do	do	27	10 12	11 15
149	do	do	28	10 12	11 15
150	do	do	29	10 12	11 15
151	do	do	30	10 12	11 15
152	do	do	31	10 12	11 15
153	do	do	32	10 12	11 15
154	do	do	33	10 12	11 15
155	do	do	34	10 12	11 15
156	do	do	35	10 12	11 15
157	do	do	36	10 12	11 15
158	do	do	37	10 12	11 15
159	do	do	38	10 12	11 15
160	do	do	39	10 12	11 15
161	do	do	40	10 12	11 15
162	do	do	41	10 12	11 15
163	do	do	42	10 12	11 15
164	do	do	43	10 12	11 15
165	do	do	44	10 12	11 15
166	do	do	45	10 12	11 15
167	do	do	46	10 12	11 15
168	do	do	47	10 12	11 15
169	do	do	48	10 12	11 15
170	do	do	49	10 12	11 15
171	do	do	50	10 12	11 15
172	do	do	51	10 12	11 15
173	do	do	52	10 12	11 15
174	do	do	53	10 12	11 15
175	do	do	54	10 12	11 15
176	do	do	55	10 12	11 15
177	do	do	56	10 12	11 15
178	do	do	57	10 12	11 15
179	do	do	58	10 12	11 15
180	do	do	59	10 12	11 15
181	do	do	60	10 12	11 15
182	do	do	61	10 12	11 15
183	do	do	62	10 12	11 15
184	do	do	63	10 12	11 15
185	do	do	64	10 12	11 15
186	do	do	65	10 12	11 15
187	do	do	66	10 12	11 15
188	do	do	67	10 12	11 15
189	do	do	68	10 12	11 15
190	do	do	69	10 12	11 15
191	do	do	70	10 12	11 15
192	do	do	71	10 12	11 15
193	do	do	72	10 12	11 15
194	do	do	73	10 12	11 15
195	do	do	74	10 12	11 15
196	do	do	75	10 12	11 15
197	do	do	76	10 12	11 15
198	do	do	77	10 12	11 15
199	do	do	78	10 12	11 15
200	do	do	79	10 12	11 15
201	do	do	80	10 12	11 15
202	do	do	81	10 12	11 15
203	do	do	82	10 12	11 15
204	do	do	83	10 12	11 15
205	do	do	84	10 12	11 15
206	do	do	85	10 12	11 15
207	do	do	86	10 12	11 15
208	do	do	87	10 12	11 15
209	do	do	88	10 12	11 15
210	do	do	89	10 12	11 15
211	do	do	90	10 12	11 15
212	do	do	91	10 12	11 15
213	do	do	92	10 12	11 15
214	do	do	93	10 12	11 15
215	do	do	94	10 12	11 15
216	do	do	95	10 12	11 15
217	do	do	96	10 12	11 15
218	do	do	97	10 12	11 15
219	do	do	98	10 12	11 15
220	do	do	99	10 12	11 15
221	do	do	100	10 12	11 15

We hereby certify that the above is a correct report of the shearing of the flock of our flock.

L. W. & O. BARNES.

**Shearing at Richmond, N. Y.**

To the Editor of the Michigan Farmer.

We give below the weights of ten yearling ewes exhibited by Daniel Short at the Honeycomb shearing.

One hundred and fifty-two pounds, and five ounces of good wool. Average fifteen pounds 3 ounces.

These ewes were the best of Black Hawk, and we should have stated in our last week's letter, that Black Hawk was bred by that old veteran breeder, J. C. Short of Hemlock Lake, N. Y., who has done so much for the improvement of the Merino in nearly every State of the Union. J. D. O.

**Sheep at Paw Paw.**

To the Editor of the Michigan Farmer.

Our annual shearing festival will be held on the 25th day of this month. The officers of our association are not particularly interested in thoroughbreds, and on this account have set the day rather late.

Owing to the lateness of this meeting the owners of thoroughbreds had arranged to hold a public shearing on the 6th of this month, but the weather not being favorable we were unable to hold it.

Our heaviest fleeced sheep we have shorn, but as the season has been so unusually backward, they would probably not have suffered much from heat. The sheep interest is in good condition in this section. Sheep are shearing heavily, and the lamb crop is good. I have had good luck with lambs this spring, and now have the finest

lot I ever raised. They are all sired by Martin's 100, N. Y. Register. I finished my shearing on the 8th of this month. My thoroughbred ewes sheared from 13 to 19 lbs., with the exception of one ewe shearing 11 lbs., the average being 16 lbs. 4 ozs. I have reserved two rams and three ewes to shear at the festival. My sales the last year have been good, amounting to \$2,000 since last September.

H. B. WELCH.

## Veterinary Department

Conducted by Prof. Robert Jennings, late of Philadelphia, Pa., author of "The Horse and his Diseases," "Cattle and their Diseases," "Sheep, Swine and Poultry," "Home Trailing Made Easy," etc. Professional advice through the columns of this journal to regular subscribers free. Particular information will be required to send their full name and address to the office of the FARMER. No questions will be answered unless a fee of one cent is paid by the sender. In order that correct information may be given the symptoms should be accurately described, how long standing, together with color and age of animal, and what treatment, if any, has been resorted to. Private address, 201 First Street, Detroit.

**Obscure Diseases in a Heifer.**

Moscow, May 10, 1882.

Veterinary Editor of the Michigan Farmer.

DEAR SIR:—I had a one-year-old heifer, white with red spots, in good flesh.

April 20 she was taken with a chill that lasted until the next day, sweat at the nose by spells, eyes were red and swollen at first, discharging a watery matter from them, the third day they commenced growing, and the fourth day she was apparently blind, the fourth day discharging a yellow matter from the nose, and frothing at the mouth; her throat seemed swollen, and rattled some, she was stiff in her front parts from the first, and seemed to tremble most of the time, the sixth day died. Please tell me what ailed my heifer, and give a remedy and oblige!

C. J. CULBERT.

Answer.—The symptoms you have given are all important in aiding us to make a correct diagnosis of the disease of which your heifer died, but alone are not sufficient to correctly diagnose the disease. There are other symptoms more important than these given above, which appear to have escaped observation.

First: The respiration, temperature of the horns, body and limbs, tenderness about the spine, rumination. You say "the throat is swollen," but you do not inform us whether or not there was soreness or cough, both of which accompany inflammatory action in that part.

Second: The pulse, the most important of all symptoms, we do not expect, as that can only be correctly described by an expert. We fail from symptoms given to diagnose the disease, as they are associated with several other diseases quite different in their character, treatment, and termination.

An autopsy upon the dead animal would have revealed the true character of the disease. Should you have any more animals taken in the same manner, note the symptoms carefully, no matter how trifling they may appear to you, and in case of further loss, send us by express, specimens from the diseased parts for examination.

**Probably Foot Lameness.**

GENESEE, May 11th, 1881.

Veterinary Editor Michigan Farmer.

DEAR SIR:—I have a nine year old bay mare, with black points, weighs about 1,000 lbs. she is lame in the left fore leg. She goes over her lameness with rest, but it comes on again with exercise, and the more exercise the more lameness; her shoulder seems to be all right. Had a blacksmith examine her foot; he found nothing wrong there. She has a hard callus on the outside just below the knee, no fever in it. She travels as if her feet were sore. She places her foot ahead when standing. Have used foot ointment on her foot, supposing the lameness was there; have used liniment and salt and camphor on her leg, to take the swelling out caused by a corn.

YOUNG FARMER.

Answer.—Your description of the symptoms in your mare are too brief to justify us in attempting a diagnosis of the disease. The pointing of the foot, indicates the seat of disease as below the knee joint.

The pointing or advancing the foot, is very generally described by veterinary authors as a certain diagnostic symptom of navicularitis or coffin joint lameness. Our own investigations do not sustain this theory. An experience of more than one third of a century, practicing veterinary medicine and surgery, a large portion of which time over 2000 omnibus and street car horses were annually under our medical care, gave us many opportunities for thorough investigation. In many animals during life suffering from chronic lameness, and treated for navicular disease, upon examination after death, this joint was found in a perfectly normal condition, but have found the disease seated in other parts of the foot, as the heel; severe or ulcerated corns; acute inflammation of the lateral cartilage; ossification of the perforans tendon at its attachment to the os pedis or coffin bone immediately under, but not involving the navicular joint.

We have also found where ulceration or caries of the pastern and fetlock joints were the most prominent during the lameness of the animal while living. In these several pathological conditions one important symptom is rarely mentioned by subscribers seeking advice, that is the lifting of the foot in nearly a natural manner, and dropping when the weight of the animal is thrown upon it. The callous or bone enlargement below the knee, unless involving the action of the joint, has nothing to do with the lameness, and may be regarded only as an eye sore. Under the circumstances we can only advise the application of a fly blister, made thin with spirits of turpentine and applied from the fetlock to the hoof. Give the animal rest, and if necessary apply the blister again in about two weeks.

**Sold Out.**

Special Telegram to Henry Johnson & Lord.

FARMINGTON, OHIO.—We have sold all those Baxter's Mandrake Bitters you sent us. They give universal satisfaction. Send us twelve dozen forthwith.

J. WERTS & SON.

The Rev. Chas. E. Piper, of Wakefield, R. I., writes: "I have used Baxter's Mandrake Bitters in my family for over two years, and as a result have not called a Physician in the whole time. My wife had been an invalid for years, but these Bitters have cured her."

"How do you manage," said a lady to a friend, "to appear so happy all the time?" "I always have Parker's Ginger-Tonic handy," was the reply, "and thus keep myself and family in good health. When I am well I always feel good natured." See other column.

It is impossible for a woman after a faithful course of treatment with Lydia E. Pinkham's Vegetable Compound, to continue to suffer with a weakness of the urine. Enclose a stamp to Mrs. Lydia E. Pinkham, 230 Western Avenue, Lynn, Mass., for her pamphlets.

THE HOWE SCALE took first premium at Philadelphia, Paris Sydney, and other exhibitions. Borden, Selock & Co., Agts., Chicago.

## COMMERCIAL.

## DETROIT WHOLESALE MARKET.

DETROIT, May 23, 1882.

Flour.—Was steady at former quotations and the demand is small and buyers seem holding off for lower values. Stocks are large and holders do not force sales and are doing what is in their power to resist a downward movement.

Flour is proportionately cheaper than wheat, and although the market is quiet holders are firm in their views. Quotations are as follows:

White wheat, roller process..... \$7 00  
Fancy white (city mills)..... 6 50  
Choice white wheat (country)..... 6 25  
Second white wheat..... 5 75  
Minnesota spring..... 7 00  
Minnesota patent..... 7 50

Wheat.—The market this week has opened dull, and yesterday at the opening of business there was a decline of 1/16 cent noted on spot. Futures were also dull and lower. Reports from Chicago later in the day showed a better feeling there, with prices tending upward, and this strengthened the market somewhat, but the decline noted early in the day was not entirely recovered. At the close No. 1 white was at \$1.38 per bu., No. 2 at \$1.32, and No. 3 at \$1.41.

Closing prices of futures were as follows: May, \$1.36; June, \$1.38; July, \$1.38; August, \$1.38; September, \$1.38.

Corn.—Was dull, though there is more disposition to sell the options at quotations. The sales yesterday comprised 1 car of high mixed at \$7.46, and 1,000 bu. of No. 2 for May delivery at 78c per bu.

Oats.—Dull, the firm view of holders checking business. The only sales reported yesterday were 1 car of No. 1 white, to arrive at 56c, and 5,000 bu. of No. 1 mixed for July delivery at 51c per bu.

Hay.—Market quiet; good to choice samples are taken at \$2 00 to \$2 25 per cental.

Rye.—Very little being received. Market steady at 90c per bu.

Corn Meal.—Fresh ground is quoted at \$31 00 per ton for fine and \$30 00 for coarse.

Feed.—The market is quiet, and prices are not well established. Bean sells at \$17 00; coarse middlings could be sold at \$18 00 to \$19 00. Corn and oats, \$30 00 to \$31 00.

Butter.—Choice is quiet, with a very light demand. For the choicest lots about 50c could be obtained with quotations ruling from 18 to 30c per lb. The medium and lower grades are neglected, with nominal quotations at 12 1/2 to 16c per lb.

Cheese.—New cheese is fairly active at slightly better rates, namely 12 1/2 to 14c for full cream State of best make. No shipping demand exists, as rates are higher here than in most other markets.

Eggs.—The market is steady, and fresh are quoted at 17c per doz.

Beans.—Stocks light and market firm at \$3 25 to \$3 45 for hand picked, and \$3 00 to \$3 20 for unpicked.

Peas.—Involves of pure quality at 20c to 22c; in stock it is held at 20c to 22c.

Dried Fruit.—Quotations are as follows: For re-packed bulk, 94c to 96c; for original stock, 10c to 12c. Apples, 16c to 18c; peaches, 15c to 18c; plums, 12c to 14c.

Potatoes.—Firm and higher. Choice Rose or other desirable varieties were held at \$1 34 per bu. for car lots and at \$1 40 per bu. for small lots. Scotch potatoes were at \$1 00 to \$1 10 per bu.

Salt.—Synapse, \$1 05 per 100 lb.; Saginaw, 90c per 100 lb. This is by the barrel; by the barrel, 80c per 100 lb. is charged.

Honey.—Choice new comb is dull at 14 1/2 to 16c per lb.

Onions.—Market quiet at \$7 50 to 8c per bu. Onions in bulk, \$1 25 to \$1 50 per 100 lb.

Wood.—Firm; rates for wood delivered are \$2 50 to \$3 00 for hickory, and \$3 75